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Zhodnocení současné situace na dluhopisovém trhu v Číně

Assessment of Contemporary Situation in China's Bond Market

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1. Introduction
2. Characteristic of Bond Market
3. Structure of China's Bond Market
4. Assessment of Contemporary Situation
5. Conclusion

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The declaration

"Herewith I declare that I elaborated the entire thesis, including all annexes, independently."

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Content

1 Introduction

As China's economic has been developed rapidly, great attentions have been paid to China's financial market. There are more and more investors started to notice Chinese financial market. China's bond market as a relatively new and young market compared to the other countries in the world, it has developed rapidly. However, because of the special history and different cultural environment in China, the development and situation of China's bond market are different from the developed western countries. Therefore, it is significant to introduce the China's bond market from the development history, market structure and problems to assess the contemporary situation. The aim of the thesis is to assess the contemporary situation of China's bond market and expect further improvement of the market in the future.

The thesis is organized into five chapters, and the first is introduction. In the second chapter, I will state some basic theories and general characteristics of bond market. These contents are helpful for the understanding of the features, types, functions and participants of bond market. It provides the basic knowledge and gives a general idea of bond market.

The third chapter is based on the knowledge from chapter two, and to introduce the China's bond market. At first, It is a simply description of the development history of China's government bond market, corporate bond market and financial bond market. Due to the starting of corporate bond in China is very late, the main history of Chinese bond market is the development history of government bond. And the history is divided into five stages according to some important events and different characteristics. Next is the introduction of the current bond market structure in China. Then there are some explanations of the main instruments and issuers in the China's bond market. At last, it is the introduction of the main participants in the China's bond market.

Chapter four is the assessment of contemporary Chinese bond market. Firstly, there are some newest data and statistics to evaluate the current performance of China's bond market. Secondly, I choose two developed countries the US and Japan as representatives from the western country and Asia to make comparison with China. It is more comprehensive to assess the situation in China’s bond market through the comparison with other countries. Then it is the conclusion of the performance of China’s bond market and some problems and weaknesses of it. The last part is some suggestions aimed at the problems exist in China’s bond market for the better development of the market and the expectation of future development. Following is the fifth chapter conclusion.

You will get a deeper comprehending of the development of China’s bond market and understand the market situation more detailed through this thesis. Furthermore, the real contemporary performance of China’s bond market and the weaknesses and potentials of the market under the rapid growth will also lead you to know the real bond market in China.

2 Characteristic of Bond Market

This chapter is based on the theories from *Bond Markets, Analysis and Strategies*. *Bond market* also known as debt market is a significant part of financial market. Financial market can be classified by maturity of claim into two parts, the money market and the capital market, and the capital market includes stock market and bond market. As a part of the capital market, the bond market provides long-term loans and equity capital for public and private expenditures. The capital markets may also be divided into primary markets and secondary markets. Newly issued securities are bought or sold in primary markets, such as during initial public offerings. Secondary markets allow investors to buy and sell existing securities. The transactions in primary markets exist between issuers and investors, while secondary market transactions exist among investors.

2.1 Definition and Structure of Bond Market

The *bond market* is a financial market where participants can issue new debt, or buy and sell debt securities. This is usually in the form of bonds, but it may include notes, bills, and so on. In other words, bond markets are markets in which bonds are issued and traded.

Bond is an investment instrument - a security representing a debt obligation, it is long-term debt obligations issued by corporations, municipalities and government units. Bond issuers promise to pay a specified amount in the future on the maturity of the bond plus coupon interest on the borrowed funds. Fabozzi (2012) states that a bond is a debt instrument requiring the issuer (also called the debtor or borrower) to repay to the lender/investor the amount borrowed plus interest over a specified period of time.

The bond market can be divided into different categories according to different classification criteria. The most common classification is as the following.

The category is based on the basic functions of the market and the operating process of bond. The bond market can be divided into primary market and secondary market. The *primary market* is the part of the capital market that deals with issuing of new securities. Companies, governments or public sector institutions can obtain funds through selling a new stock or bond issues to the initial suppliers of funds through primary market. Therefore, it is also called the new issue market. The *secondary market* is also called aftermarket, is the financial market in which previously issued financial instruments such as stocks, bonds, options, and futures are bought and sold. Once financial instruments such as stocks or bonds are issued in primary market, they are then traded - that is, re-bought and resold - in secondary market.

Moreover, the secondary market can be classified into organized market and over-the-counter market according to the organization.

A *stock exchange* is an *organized market* for the trading of stocks and bonds. Such markets were originally open to all, but at present only members of the owning association may buy and sell directly. Each exchange set its own requirements for membership. Members, or stockbrokers, buy and sell for themselves or for others, charging commissions for their services. There are some famous exchanges in the world, for example the New York Stock Exchange in the United States, the Shenzhen Stock Exchange and Shanghai Stock Exchange in China, the London Stock Exchange in the United Kingdom and so on.

The *over-the-counter market* is the market in which securities transactions are conducted through telephone and computer network connecting dealers in stock and bonds, rather than on the floor of an exchange. The term "over-the-counter" refers to stocks that are not trading on a stock exchange, and it is a type of secondary market also referred to as a dealer market.

2.2 Bond Features

The *issuer* of a bond is a crucial feature of a bond. Fabozzi (2012) states a key feature of a bond is the nature of the issuer. And there are three issuers of bonds: the federal government and its agencies, municipal governments, and corporations. Within the municipal and corporate bond markets, there is a wide range of issuers, each with different abilities to satisfy their contractual obligation to lenders.

The principal or the face value of a bond is the amount of money that the issuer agrees to pay back to the bondholder at the maturity date.

The coupon is the amount the bondholder will receive as interest payments. The coupon rate is the interest rate that the issuer agrees to pay each year. The annual amount of the interest payment made to owners during the term of the bond is coupon. The coupon is expressed as a percentage of the par value.

The *term to maturity* is the number of years that the issuer promised to repay the principal. Fabozzi (2012) states the term to maturity of a bond is the number of years over which the issuer has promised to meet the conditions of the obligation. The maturity date is the date in the future on which the investor's principal will be repaid. Maturities can range from as short as one day to as long as 30 years. Generally, bonds with a maturity of between one and five years are considered short term. Bonds with maturity between five and 12 years are viewed as intermediate-term, and long-term bonds are those with a maturity of more than 12 years.

The bond indenture is the contract between an issuer of bonds and the bondholder covering form of the bond, amount of the issue, property pledged, protective covenants, and redemption rights or call privileges.

2.3 Types of Bond Markets

Bond markets are traditionally classified into three types: treasury and agency notes and bonds, municipal bonds, and corporate bonds.

2.3.1 Treasury Bonds Markets

Treasury bonds are issued by the department of the treasury and are backed by the full faith and credit of the government, therefore, it is considered as having no credit risk by the market participants.

The treasury issues three types of securities: bills, notes, and bonds. It can be classified into two types: discount and coupon securities. *Treasury bills* are *discount treasuries*, they have a maturity of 1 year or less, are sold at a discount from par and do not make periodic interest payments.

All securities with initial maturities of two years or more are issued as *coupon securities*. Treasury notes and bonds are referred to as treasury coupon securities. Coupons securities are issued at approximately par, have a coupon rate, and mature at par value. Treasury coupon securities issued with original maturities between two and ten years are called notes. Treasury coupon securities with original maturities greater than 10 years are called bonds (Fabozzi, 2012).

Moreover, the coupon securities can be divided into two typed. The two types of treasury coupon securities are fixed coupon rate securities and inflation protection securities. The treasury inflation protection securities are the inflation-indexed bonds issued by the U.S. Treasury. The principal is adjusted to the Consumer Price Index (CPI), the commonly used measure of inflation. Treasury notes and bonds are issued for financing the national debt and other government expenditures.

The treasury issues its new securities in the primary market, and determines the procedure for auctioning new treasury securities, when to auction them, and what maturities to issue according to a regular auction cycle.

The treasury securities are traded on the secondary market which is an over-the-counter market. The dealers trade with the general investing public and with other dealers.

2.3.2 Municipal Bonds Markets

Municipal bonds are issued by local governments including cities and counties, and by entities that they establish. There are both tax-exempt and taxable municipal bonds. “Tax-exempt” means that interest on municipal bonds is exempt from federal income taxation, and it may or may not be taxable at the state and local levels (Fabozzi, 2012). The purposes of issuing the short- term municipal bonds are to fund temporary imbalances between operating expenditures and receipts. Municipalities issue long-term bonds are for finance long-term capital outlays for activities such as school construction, public utility construction, or transportation systems and long-term budget deficits that arise from current operations. Tax receipts or revenues generated from a project are the source of repayment on municipal bonds. In the United States, most municipal securities are tax-exempt. The risk of the municipal bonds are viewed very low but a little higher than the treasury bonds because cities don't go bankrupt that often, but it can happen.

There are two basic types of municipal security, tax-backed debt and revenue bonds.

Tax-backed debt are issued by states, counties, special districts, cities, towns and school districts and secured by some form of tax revenue. The revenue bonds are issued for specific project or enterprise financing and the issuers mortgage to the bondholders the revenues generated by the operating projects.

Municipal bonds are issued with one of two debt redemption structures, or a combination. The first structure is serial maturity and the other is a term maturity structure. A serial maturity structure has the requirement of a portion of the debt obligation to be refund each year. However, a term maturity structure provides for the debt obligation to be refund on a final date. Usually, term bonds have maturities ranging from 20 to 40 years and redemption schedules that begin 5 to 10 years before the final term maturity. Municipal bonds may be called prior to the specific maturity date according to a sinking fund or at the option of the issuer.

In the municipal bond market there are two types of zero-coupon bonds. One of them is issued at a very deep discount and matures at its face value. The return comes from the difference between the face value and the purchase price. The other type is municipal multiplier, or compound interest bond. This kind of bond issued at its face value that has interest payments. The issuer agrees to reinvest the undistributed interest payments at the bond's yield to maturity when it was issued, instead of distribute the interest payments to the holder of the bond until the maturity.

Because of the low historical default rates for municipal bonds, credit risk is viewed small. However, investing in municipal securities exposes investors to two types of tax risk. The first is the highest marginal tax rate will be reduced, and it will lead to a decline in the value of municipal bonds. Another tax risk is that a tax-exempt issue may be eventually declared by the Internal Revenue Service to be taxable typically in USA.

2.3.3 Corporate Bonds Markets

Corporate bond is a bond issued by a corporation to raise money effectively in order to expand its business. The corporate issuer promises to pay a specified percentage of par value on designated dates, and to repay par value of the bond at maturity. Corporate bonds can be classified by the type of issuer, and generally classified by bond information services into four classifications: utilities, transportations, industrials, and banks and finance companies.

The bond indentures are contracts with promises of corporate bond issuers and the rights of investors who buy them. The indentures are very important in the analysis of the credit risk of a corporate bond.

Most corporate bonds are term bonds, that is, they run for a term of years, and then become due and payable. Term bonds are often referred to as bullet bond. Any amount of the liability not paid off prior to maturity must be paid off at that time.

Generally, a short-term corporate bond is less than five years; intermediate is five to 12 years, and long term is over 12 years.

Compared to government bonds, corporate bonds offer a slightly higher yield because they carry a higher risk of default. The risks associated with corporate bonds depend entirely on the issuing company. The issuer of a bond is crucial factor to consider, as the issuer’s stability is main assurance of getting paid back. Purchasing bonds from well-established and profitable companies is much less risky than purchasing bonds from firms in financial problems. The investors of corporate bond face the credit risk which is the risk that the borrower will fail to pay back the payment of interest and repayment of the amount borrowed.

Therefore, the company's credit quality is very important: the higher the quality, the lower the interest rate the investor receives. Investors usually do not use their own analysis of the issuer’s creditworthiness, but rely on a system of credit ratings developed by commercial rating companies. The bond rating system helps investors determine a company’s credit risk. The rating systems of the three nationally recognized rating companies - Moody’s Investors Service, Standard & Poor’s Corporation, and Fitch - use similar symbols to express the rating of the company. Different rating agencies may use variations of an alphabetical combination of lower and upper case letters, with either plus or minus signs or numbers added to further fine tune the rating (see annex 4). In all systems the term high grade means low credit risk. All these companies rank bonds based on the perceived probability of issuer default and assign a rating based on a letter grade. The highest-grade credit quality is a triple-A (Aaaor AAA).

2.4 Main Functions of Bond Market

The bond market occupies a very significant position in the economy of a society because of the following functions.

The first function is the *motivation of financing and investment*. On the one hand, the bond market as an important component of the financial market, it provides the opportunities for the deficit units to raise funds from the surplus units, so they can borrow the money in the financial markets not only from banks. On the other hand, the bond market can motivate investors to invest their money through bond market. It provides more ways to invest money for all types of investors, to enable them to carry out their investment plans.

The second is *resources allocation function*. The bonds issued by some outstanding corporations usually highly welcomed by the investor, as a result, the coupon rate of these bonds are usually low, so the costs of financing are also low. On the contrary, the bond issued by some corporations with poor performance will have relatively high risk, as a result, there are less investors are willing to invest it, so the costs of financing are high. Therefore, the funds are able to concentrate on the excellent enterprises, thus to optimize the allocation of resources.

The third function is to *control the macro economy of the country*. As a sector of formulating and implement monetary policy, the central bank of a country mainly use the deposit reserve, open market operations, rediscount rate policy to control the macroeconomic performance. The trade of the securities such as government bond by the central bank through the open market operation on the bond market helps the central bank to adjust the supply of money. Therefore, the open market operation is one of the important methods to achieve macro-control. The central bank will sell some securities to withdraw some money from the financial institutions and the public when the economy of the country is overheating in order to reduce the money supply. On the contrary, the central bank will buy some securities to increase the money supply when the recession of the economy.

In addition, *reducing the risk* is also one of the functions of bond market. The bond market can not only provide number of channels of financing and investment, but also create a way for investors and issuers to reduce the risk. The demand of fund can reduce the operating risk by issuing the bond to raise money, so that the investor can help them take a certain amount of operating risk. At the same time, the investors can create some portfolio to reduce their own risk by buying some bonds with low risk, such as government bond.

2.5 Main Participants

Bond market participants are similar to participants in most financial markets and are essentially either buyers of funds or sellers of funds and often both. Entities in the financial market can both raise funds by issuing financial obligations, and invest in financial assets. These entities can be classified into nine groups.

At first, the most general group is *households*. It is very easy to understand, that is every family that participate in the bond market to buy and sell the bonds.

The second is *government group*, and it includes federal or central government, government-sponsored enterprises, state or provincial governments, and local or regional government. The central government raises funds by issuance of securities referred to as treasury securities. The government-sponsored enterprises are the major participant in the bond market. These enterprises are publicly owned shareholder corporations. The state or provincial governments and local governments also issue and invest in the bond market.

The third group is *non-financial corporations*. Non-farm corporations are classified as financial and non-financial corporations. Financial corporations included depository institutions, insurance companies, and investment banks. Non-financial corporations issue securities including stocks and bonds.

The fourth group is *depository institutions* include commercial banks, saving and loan associations, savings banks, and credit unions. With the funds depository institutions raise through deposits and other funding sources, they make direct loans to individuals, nonfinancial and financial businesses, and state and local governments.

The fifth group is *insurance companies*. Insurance is the business of providing protection against financial aspects of risk, such as those to property, life, health and so on. Insurance companies include life insurance companies and property and casualty insurance companies. For providing the protection the insurance companies receive an insurance premium. Between the times the insurance premium is paid and a claim on the insurance company is paid out, the insurance company can invest those proceeds in the bond market.

The sixth group is *asset management firms*. The asset management firms manage the funds of individuals, businesses, and state and local government. Their primary compensation is the fees that they earn. The fee is linked to the amount of assets managed and/or the performance of the portfolio managed. Some asset management firms are subsidiaries of commercial banks, insurance companies, and investment banking firms.

The seventh group is *investment banks*, and its main functions are obtaining the funds for who need it and acting as brokers in buying and selling of securities for investors who wish to invest funds.

The eighth group is *nonprofit organizations*. Nonprofit organizations are not motivated by profit or any monetary gain but have as their primary objective financially supporting and/or actively engaging in activities that will benefit some specific public or private interest.

The last group is *foreign investors*. Foreign investors participate in the domestic bond market include individuals, nonfinancial business and financial entities that are not domiciled in the domestic market, as well as foreign central governments.

3 The Structure of China's Bond Market

Over the past 30 years, there are many tremendous changes and reforms happened in China, and the Chinese economy also has developed very fast. Therefore, as a significant part of capital market, the China's bond market established and then has developed a lot during these years. However, as the unique history and social system exist in China, the development of China's capital market including stock and bond market is different from some western country like the USA. Moreover, with the progressing of China's reform and opening-up and the rapid growth of China's market economy, the China's bond market gradually become one of the most important markets in China even in the world, although it started very late. But what cannot be ignored is the high-speed growth of China's economy and financial market also lead to some problems.

3.1 History of China's Bond Market

The history of China's bond market can be divided to five stages according to some significant events. These historical stages are mainly summarized from the development of treasury bond market in China.

3.1.1 The First Stage of China's Bond Market Development[1]

The first stage of China's bond market is the time before 1949, because the People's Republic of China was established in 1949. Before the China was founded, the earliest bond can be traced back to late Qing dynasty. At that time, the government faced a big amount of indemnities because of a series of wars with the West. So the government was forced to go to foreign markets to borrow money. Bonds issued during the Qing dynasty were almost exclusively government foreign issuance secured with various fiscal revenues such as customs, taxes and so on. The first domestic bond market was established under the Republic's regime.

[1] ChinaBondMarketConceptPaper- Standard& Poor's

Following the end of imperial governance in China in 1911, the new Republic government shortly ran into fiscal problems. Because continually relying on foreign debts secured with fiscal revenues, the Republic government started to issue domestic bonds. When the government went through continuous wars, the fiscal revenues were severely disrupted. After a series of defaults and reorganizations in the 1920-1930s, the credit of the government and the market was severely damaged. In the 1940s, the government issued a new currency to wipe out most of its debts at the expense of bondholders.

3.1.2 The Second Stage of China's Bond Market Development

The second stage is from 1949 to 1988. After the 8-years wars with Japan and 4-year civil wars, the economy was destroyed. And then the communist party took control of the country in 1949, the People's Republic of China was established. The new government issued RMB 302 million debts to revive and stabilized the economy, and it provided the government the needed capital. In 1953, the fiscal pressure of the government was greatly relieved and a new tax system established to ensure a steady growth of fiscal revenues. With the economy stabilized, the government set out to fulfill its economic reconstruction plans, the so-called "Five Year Plans". From 1954 to 1958, the government raised RMB 3.5 billion in total. Meanwhile, the government took full control of the country by establishing a new national centralized planning and budget allocation economic system. Because of the system, the government directly controlled and supplied corporate capital; actually there was no need for the existence of separate corporate bonds and financial bonds. Therefore, there are only treasury bonds issued on the market during the period in the form of physical printing notes.

At that time, the bonds was issued mainly through administrative allocate rather than volunteer investment, so there was no secondary markets existed. In the late 1950s, Chinese government broke up of its relationship with the Soviet Union, and decided that it should not have internal or external debts. As a consequence, there was no development in the bond market in China for 20 years.

However, the Chinese government started to implement economic reform from 1978. It brings the raising of prices for rural production and the allowance of corporation to retain part of its profits, and the government quickly turned the country's fiscal budget to the deficit. The government had to start to issue the government bonds again to finance the economic reform and to keep the inflation. As a result, China resumed treasurybond issuance in 1981. During the period from 1981 to 1986, the market size of government bonds was kept at a low level, with no more than RMB 10 billion each year.

3.1.3 The Third Stage of China's Bond Market Development

The third stage is from 1988 to 1993. The China's secondary bond market really started in 1988, and the bond started public listing and trading. The treasury bond was first allowed to be traded over severalcounters, which means the RMB Bond's secondary market was finally formed in 1988. During this period, the over-the-counter bond market coexists with the exchanges bond market. In 1988, the ministry of finance approved the experimental circulation of treasury bond via the over-the-counter transactions at commercial banks in 61 cities.

The development of the over-the-counter transactions among Chinese commercial banks can be viewed as the real start of China's secondary bond market. In December 1990, the Shanghai Stock Exchange established and started transactions of book-entry treasury bonds and depository business of physical printer treasury bonds. Therefore, during this time there were both over-the-counter market and exchanges market transactions. Since the establishment of Chinese stock exchange, the T-bond started centralized trading in stock exchange market on the early 1990s.

However, due to lack of infrastructure and Centralized Securities Depository, China's bond market sufferedserious strikes. As there were no consolidated depository institutions for the physical delivery of bonds, so transactions were limited within each local market. In 1991, the first underwriting syndicate was organized for bond issuance, followed by the establishment of the primary dealer system for more efficient distribution in 1993.

3.1.4 The Fourth Stage of China's Bond Market Development

The fourth stage is the exchange bond market from 1994 to 1996. In 1993, the Shanghai Stock Exchange introduced bond futures to the general public, and an elementary government bond futures market was then established. Unfortunately, the operations of this futures market ended in 1995. The reason is the futures market attract many speculators and arbitragers, and the regulation in the future market was no completely established at that time, so the speculation finally turned to collusion and price manipulation, causing chaos in the future market. The failure of the government bond futures market can be attribute to the deficient market design, weak market governance and price control.

In order to prohibit disordered speculation in the bond future market, the government suspended all bond futures trading and shut down all over-the-counter markets in 1995. Therefore, the Shanghai Stock Exchange and Shenzhen Stock Exchange were left as the only legal markets for bond trading. In 1995, the ministry of finance started to issue book-entry treasury bonds at both the Shanghai and the Shenzhen Stock Exchanges.

3.1.5 The Fifth Stage of China's Bond Market Development

The fifth stage is from 1997 to present. In 1997, bond repos started on the Shanghai Exchange. The funds from banks flowed into the securities firms through repo loans and were used for speculative stock trading by the securities firms. At the same time, the commercial banks were forbidden from participating in the stock exchanges market and clearly prohibited from using repo to fund other investments. Then the State Council authorized central bank-People's Bank of China to create an interbank bond market for commercial banks and other qualified participants to trade bonds.

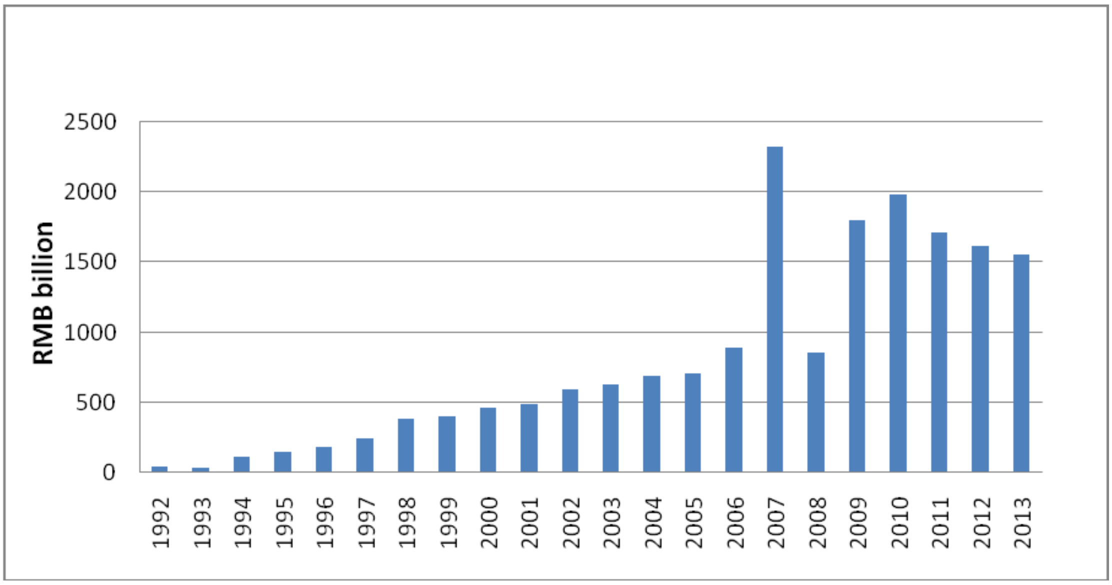
In June 1997, the interbank market was founded on the pricing and trading platform of the China Foreign Exchange Trade System and the National Interbank Funding Center. China bond market was shortly segmented into the interbank market and exchange market. Since then, the development of RMB bond market is growing fast and healthily.

In December 1996, China Government Securities Depository Trust & Clearing Co. Ltd

(CGSDTC) was established for centralized settlement and clearing. Then in 1997, it was assigned to undertake the responsibility of being the official bond custodian and to settle transactions in the interbank market. Since then, the interbank market has been reformed, and the market rules regulations and information service have been improved. In 1998, the government bond was no longer functioned only as a financing tool for public expenditure, but as a part of the fiscal policies of the country.

From then on, the bond market in China can be segmented into three markets, the exchange market, the commercial bank's counter market, and the interbank market. Of the three markets, the interbank market is dominant, with depository and trading volume accounting for 90% of total. In 2008, the issuance of government bonds was RMB 796.5 billion compared to 4.87 billion in 1981. The chart 3.1 shows the historical issuance of government bonds.

Chart 3.1 Historical Issuance of Chinese Government bonds



Source: National Bureau of Statistics of China, data as of 2013.

3.1.6 The Development of Corporate Bond Market

It is also worth mentioning that another important market also has developed through the history that is corporate bond market, although there was very little regulation for corporate bonds in the 1980s. In the mid-1980s, both public and internal fund raising emerged. In 1984, state-owned enterprises were allowed to issue corporate bonds subject to the approval of the

People's Bank of China. The coupon rate was initially set 40% higher than the general 1-year bank deposit rate, so it made the corporate bonds attractive for the public, and people viewed it as a good investment opportunity but ignored the associated credit risk.

In the early 1990s, the overheating of the Chinese economy and excessive corporate bond issuance not only resulted in a high default rate, but also interrupted the issuance of government bonds. Therefore, the government improved the administrative rules and appointed the State Planning Commission as the regulatory body for the corporate bond governance in 1993. The State Planning Commission adopted a quota system that only allowed large state-owned enterprises to have access to the system. It was strictly required that all corporate bonds issued should be 100% guaranteed by the bank with AAA rating. The coupon rate was set around 1.5% to 2.5% above the 1-year bank deposit rate regardless of the initial maturity. The development of the primary market for corporate bonds was not very successfully because of the limited quota and strict administrative controls.

However, the listing of the first corporate bond started in 1994 on Shenzhen Stock Exchange which was a breakthrough in the secondary market of corporate bonds. In 1995, the corporate bond market recovered back to life with a quota of RMB 15 billion approved by the government. In 1998, the CGSDTC was assigned as the supreme administrant of corporate bonds, and book-entry was adopted for corporate bond issuance. During this period, the size of corporate bonds market in China was relatively small, and the trade was limited to exchanges with low turnover.

In December 2004, there were new administrative rules enacted that allowing the circulation of corporate bonds in the national interbank market. For the purpose of encouraging corporations with good credit to find the different direct financing channels and reduce the financing costs, the People's Bank of China made the administrative measures on short-term financing bills in May 2005. The measures for administration required all issues should be rated. The issuance of corporate short-term bills had passed RMB 140 billion. In 2006, the first real standard corporate credit bond was issued without bank guarantee. In 2007, listed company bond was introduced to the exchanges and China Securities Regulatory Commission Decree No.50 was enacted to strengthen the regulation on the operation of credit rating agencies.

3.1.7 The Development of Financial Bond Market

The last but not least is the development of financial bond which appeared on the market later than the government bond and corporate bond. The first financial bond was issued in 1982 by China International Trust and Investment Corporation at the Tokyo Stock Exchange. In 1985, China Industrial &Commercial Bank and the China Agricultural Bank issued RMB denominated financial bonds domestically.

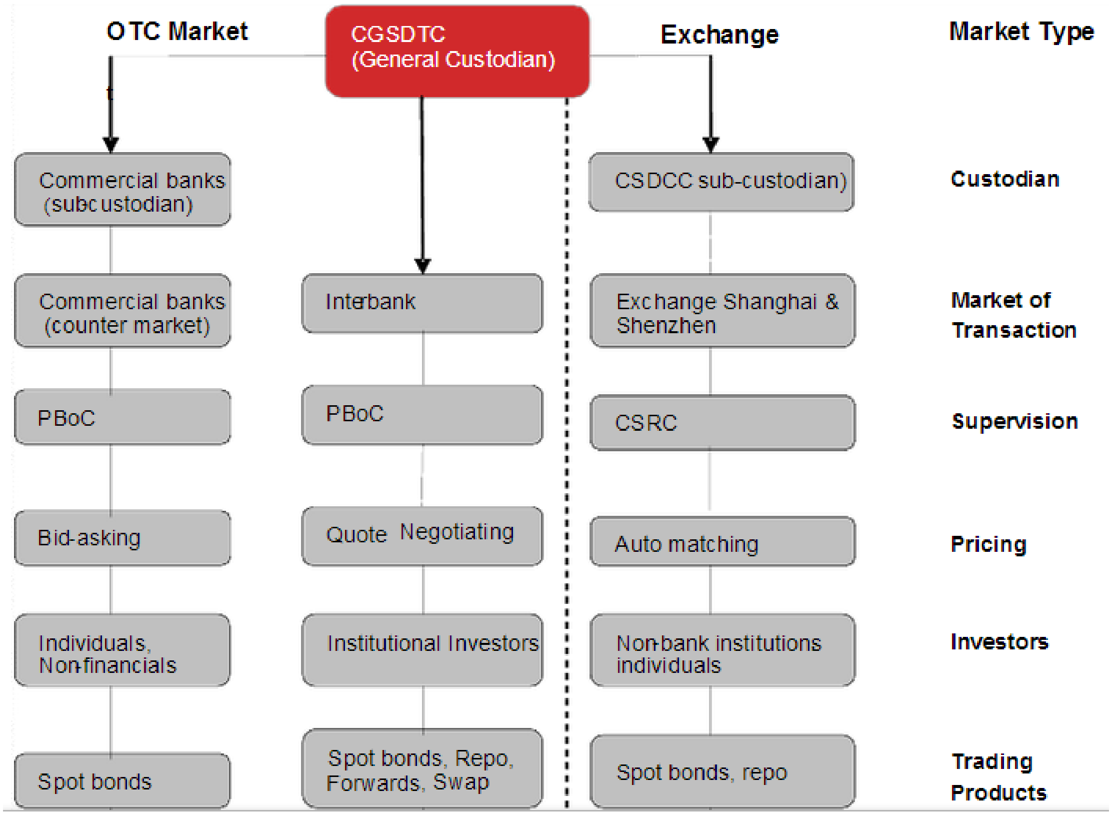
After that, several commercial banks and trust investment corporations followed it. In 1993, China Investment Bank was approved to issue USD 50 million USD-denominated financial bonds domestically. In 1994, policy banks became the major issuers of financial bonds and the second largest bond issuing body in China after the Ministry of Finance. In 2004, securities companies were approved to issue public bonds and short-term financing bills. By the end of 2006, three securities company bonds totaling RMB 4.15 billion and five securities short-term bills totaling RMB 2.9 billion were issued.

In 2004, in order to help commercial banks improve asset quality and capital adequacy, the People's Bank of China approved selected commercial banks to issue subordinated bonds. By the end of 2006, there were 11 subordinated bonds totaling RMB 29.7 billion issued on the market. In 2006, the commercial bank mixed capital bond was introduced to the interbank market. The commercial banks had issued 12.3 billion in total by the end of 2007.

3.2 Current Market Structure

The current Chinese bond market consists of two segments: the exchange market and the OTC market, while the OTC market can be subdivided into interbank market and commercial bank counter market. This classification is special compared to the general classification in the USA. Among these three subdivided markets, the interbank market plays the leading role. The RMB bond market was formed by four linked models anda two-level custody structure. The four models consist of quote driven, order driven, wholesale and retail. The structure of the RMB bond market is shown as below in Chart 3.2.

Chart 3.2 China Bond Market Structure



Source: www.chinabond.com.cn

CGSDTC is the direct depository of the interbank market and general depository for the second-tier, and it acts as the first-tiered depository for the whole of China's bond market. China Securities Depository and Clearing Co. Ltd (CSDCC) is a second-tiered bond depository for the exchange market. Commercial banks also act as second-tiered bond depositories for the OTC market.

The *Treasury bond market* is the most typical and comprehensive market. The Treasury bond either can be traded in the inter-bank market and commercial bank's OTC market in the form of quotation driven or be traded in the stock exchange markets such as Shanghai Stock Exchange in the form of order driven. Except for a small part of corporate bonds and list companies 'convertible bonds can be traded in the stock exchange, all the other bonds can be traded in the inter-bank market. At present, the main trading type in the inter-bank market is collateral repo and spot trading; forward trading and buy-sell repo are few. The trading types of exchange markets include spot trading, collateral repo and buy-sell repo. Individual investors only can participate in the spot trading over the commercial bank's counter market and stock exchange.

The *exchange market* is an order-driven market supervised by the CSRC. The major players in this market are small, medium and individual investors. Most market participants participate in the exchange market by the securities companies, which provide the brokerage services. The commercial banks are forbidden from participating in the exchange market.

The *interbank market* is a quote-driven OTC market, and the deals are negotiated between two parties. It is supervised by the People’s Bank of China and act as a wholesale market for the institutional investors. However, the Inter-bank market is much larger than the Exchange market, accounting for more than 95% of total trading volume. In 2012, the Inter-bank market experienced rapid growth and high liquidity, with about USD $35 trillion in total trading volume. Institutional investors are the main participants in this market. There were 1219 institutions and 7375 registered members had participated in this market by the end of February 2009. Moreover, there are three instruments that only traded in the interbank market: the central bank bill, corporate commercial paper and mid-term note.

The *commercial bank counter market* is an important supplement to the other two markets because the target of this market is individual investors. However, the instruments for investors to choose in this market are very limited. The main varieties are government bonds in the form of certificate bonds and electronic saving bonds.

3.3 Main Instruments and Issuers of Bond Market in China

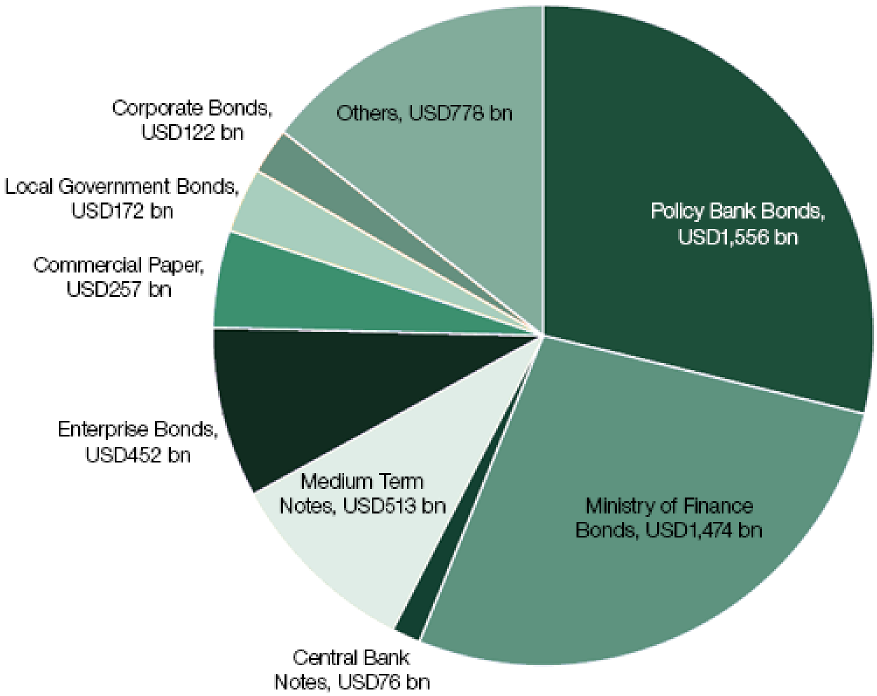
This classification of bond in China has some differences with the classification in USA. It can be mainly divided into government bonds, central bank bills, financial bonds and corporate bonds. The government bond can be subdivided into treasury bond and municipal bond in terms of different level of the government. The financial bond can be subdivided into policy financial bond, commercial bank bond, non-bank financial bond, corporate bond of securities company, and international institution bond. The corporate bond can be subdivided into enterprise bond, medium term notes, short-term financing bond, asset backed securities, listed company bond, detachable CB, and convertible bond.

At present, in terms of issuer type, the main marketable RMB bond instruments are:

government bonds, central bank bonds, policy bank bonds, commercial bank bonds (including secondary bonds, ordinary bonds and Hybrid capital bonds), non-bank financial institution bonds, securities corporate bonds, securities corporate commercial papers, corporate bonds, commercial papers, mid-term notes as well as the "the panda bonds". Panda bonds are the RMB-dominated bonds issued by international financial institutions within the boundaries of China.

The investors in China now have a wide range of fixed-income securities with different risk and return to choose. The chart 3.3 shows the size and composition of China's domestic bond market as July 2014. The total amount of bonds outstanding was USD 5400 billion, among which policy bank bonds, ministry of finance bonds, medium term bonds and enterprise bonds represented 28.8%, 27.3%, 9.5% and 8.4% of the total market.

Chart 3.3 Size and Composition of China's Domestic Bond Market

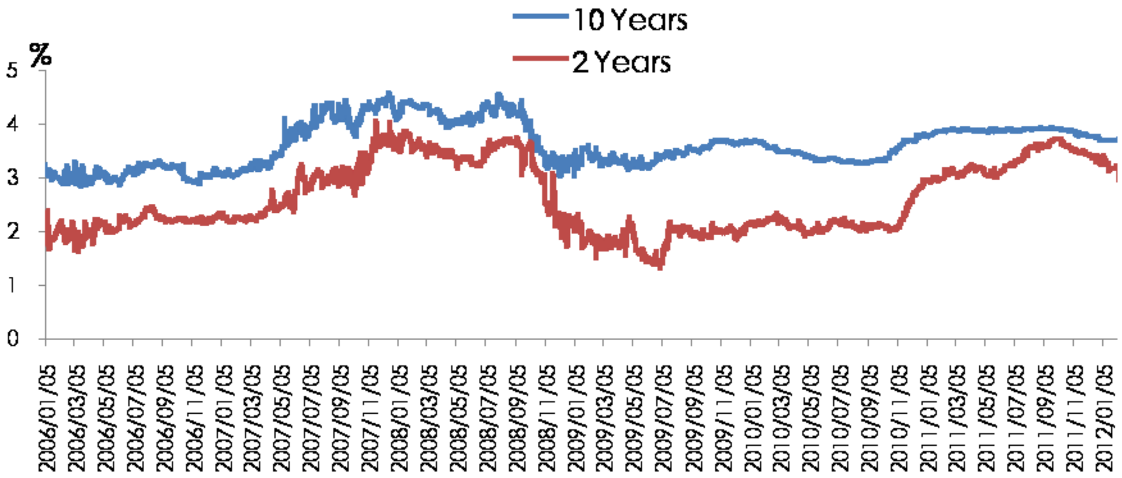


Source: www.chinabond.com.cn. Data as of July 2014

3.3.1 Government Bonds

Government bonds are issued by the ministry of finance of China to finance public expenditures, and supervised by PBOC and CSRC. The interest that the bonds earned is tax-exempt. At present, there are four types of government bonds: certificated T-bonds, local government (municipal) bonds, electronic saving bonds, and book-entry bonds. Since the issuer is the government, the government bonds are regarded as the safest instruments, with high liquidity and large amount of issuance. The secondary market for government bonds is relatively well developed.

Chart 3.4 Historical yields to maturity of government bond



Source: www.chinabond.com.cn, data as of 2012.

The certificated T-bonds do not have physical form. They are saving bonds for investors through certain commercial banks and postal savings counters in the form of “PRC Certificated Treasury Bond Certificates”. They cannot be traded on the market, but can be sold back to the original seller before maturity at a discount. The MOF set the interest rate and organizes underwrites to issue certificated T-bonds. The interest rate is usually higher than the after-tax interest rate of the saving deposit with the same maturity.

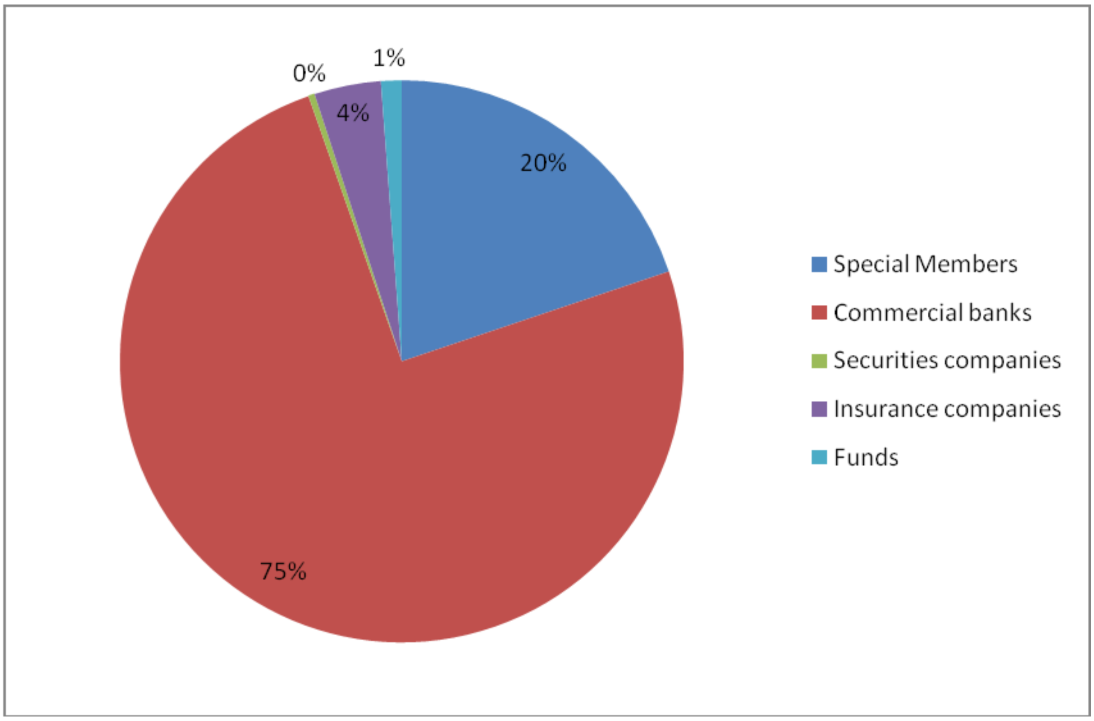
The electronic saving bonds are mainly sold at banks. The target investors are the individuals and households, and it leads the investors to invest their savings directly into national construction. The issuing process is relatively simple. The saving bonds cannot trade but can be used as mortgage and it can be sold back to the banks before the maturity if needed.

The book-entry bonds are a major type of government bond with 98.2% of total outstanding at the end of 2008. They are mainly issued and traded in the interbank and exchange markets, and their target is institutional investors. The underwriting process is conducted through auction among the appointed primary treasury dealers, and the issuing rate is determined by the general market conditions. The commercial banks are the main market participants in the primary and secondary markets of government bonds; about half of the government bonds are owned by them.

The local governments have been allowed to issue government bonds since 23 March2009. Local government bonds are book-entry T-bonds approved by the State Council, issued and repaid by provincial governments, autonomous regions, municipalities and designated cities. They are mainly traded in the exchanges market and interbank market. Therewas the end of 2009 had issued 50 municipal bonds. The purposes of issuing the local government bonds are: local funding needs for public welfare projects strengthen the local fiscal, adjusting local debt-to-GDP ratios and so on. In order to ensure the successful issuance of local government bonds, the interest income of holders of new issues is exempt from business and individual income taxes.

As shown in the Chart 3.5, the largest participant in the government bond market is commercial banks. Due to the fact that deposits are the most popular investment tolls for Chinese households, commercial banks have absorbed very large amount of money.

Chart 3.5 Chinese government bonds holding structure



Source: www.chinabond.com.cn, data as of 2014. Special Settlement Members include the PBOC, MOF, policy banks, CGSDTC, CSDCC and exchanges.

As for the maturity of Chinese government bonds, the mid-term government bonds is the majority with more than 70% of bonds outstanding having a maturity more than 1 year and under 10 years. The table 3.1 shows the bonds issuance structure by term type in 2014.

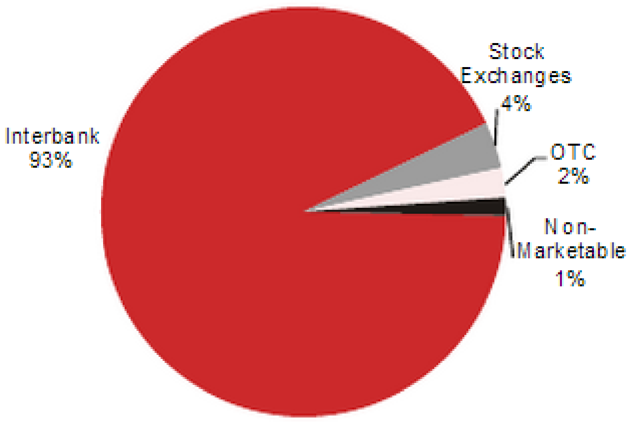
Table 3.1 Maturity structure of Chinese government bonds

Government Bonds Outstanding	Face Value(billion)	Percentage
＜ 1 Year	288.91	14.27%
1-3 Years	443.19	21.89%
3-5 Years	387.02	19.11%
5-7 Years	409.85	20.24%
7-10 Years	339.77	16.78%
＞ 10 Years	156	7.70%
Total	2024.74	100%

Source: www.chinabond.com.cn. Data as of Jan 5, 2015.

In China, the government bonds are mostly trade in the interbank market, and the liquidity is not very high. By the end of 2009, the outstanding amount of government bonds was RMB 5.7 trillion in total. But it is improving since the People's Bank of China's policy to bring in more institutional investors. Now the interbank market is no longer just inter-bank, it also includes 1219 institutional investors.

Chart 3.6 Government bond trading markets



Source: www.chinabond.com.cn

3.3.2 Central Bank Bonds

Central bank bonds are issued and supervised by the People's Bank of China to the members of the interbank market. They are also called central bank bills. The initial maturity is usually less than 1 year but some maturity within 1-3 years. As a short-term security, the central bank bills are used as a monetary policy tool to regulate the monetary base and to reduce the amount of loan-able funds at commercial banks for implementing monetary policy. In 2003, the central bank needs more government bonds for open market operations, so it started to issue its own central bank sterilization bills to absorb extra market liquidity. Due to its simplicity and flexibility, central bank bills shortly became the most important monetary tool for open market operations in China. The issuance of central bank bonds grew from RMB 723 billion in 2003 to RMB 4 trillion in 2009. By the end of 2009, the outstanding balance of central bank bonds reached RMB 4.23 trillion which was just below the balance of government bonds and financial bonds.. The central bank bill is one of the most frequently traded instruments in the interbank market, just behind financial bonds, and it absorbed more than 30% of spot trading in the interbank market in 2009. The advantages of central bank bill is safety, large issuance and high liquidity, so it has become one of the most popular instruments for money market funds and other institutional investors for liquidity management. In addition, the rates on central bank bonds provide useful benchmark rates for the Chinese money market.

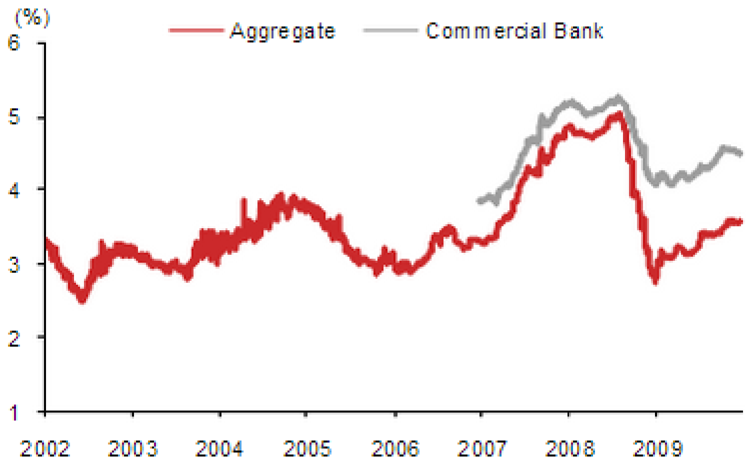
Chart 3.7 Historical yields of central bank bond (YTM)

Source: www.chinabond.com.cn

3.3.3 Financial Bonds

Financial bonds are issued by policy banks, commercial banks and non-bank financial institutions to rise mid-term to long-term capitals. The policy banks are the largest issuers and include the China Development Bank, the Export-Import Bank of China and the agriculture Development Bank of China. At present, there are various financial bonds issued and traded in China including policy bank bonds, commercial bank bond, non-bank financial bond, corporate bond of securities company and so on.

Chart 3.8 Historical yields of financial bond



Source: www.chinabond.com.cn

3.3.3.1 Policy Bank Bonds

The *policy bank bond* is the prevailing and main type of financial bond in China, which made up 24.3% of the Chinese bond market as of 2008. At present, there are three different specialized policy banks in China: China Development Bank, Export-Import Bank of China, Agricultural Development Bank of China. The policy banks are directly supported by the central government and all three have received credit ratings equal to the sovereign credit rating from Standard & Poor's, Moody's Investors Service, and Fitch. The China Development Bank's main function is providing alternative financing sources for national infrastructure. The banks were established by the Policy Banks Law of 1994. It can be viewed as the most important policy bank as it is a pillar industry critical to the national economic growth. The Export-Import Bank of China specializes in financing exports and imports of high technology products, and foreign construction contracts and investments. The Agricultural Development Bank of China supports the agriculture and rural economic development in China.

As the policy banks are owned and backed by the government, they have the sovereign credit, and they can issue bonds at much lower cost than commercial banks. The main use of the funds is that the policy banks raised are financing some key national projects that are not covered by the fiscal budge. Therefore, they are often considered as the supplement of fiscal funds. Among the three policy banks, the China Development Bank is the major issuer. It issued 24 bonds with face value of RMB 620 billion in 2008. Most policy bank bonds are short-term to mid-term bonds.

Policy bank bonds are only traded in the interbank market. The liquidity of policy bank bonds is much higher than government bonds. Because of the high liquidity and close to riskless credit, the yield curve of policy bank bonds is a good alternative benchmark for credit spread analysis, especially for commercial bank bonds. The main investors of policy bank bonds are commercial banks and insurance companies.

3.3.3.2 Commercial Bank Bonds

In 2004, qualified commercial banks were allowed to issue subordinate bonds to improve capital adequacy. The amount of subordinated bonds a bank can issue is no more than 50% of its core capital. The maturity of the subordinate bonds is usually 10 to 15 years. By the end of February 2009, there are more than 60 banks had issued the subordinate bonds. In 2005, some commercial banks had run out of their quotas for subordinated bonds, so the People’s Bank of China approved the issuance of hybrid capital bonds. It provides more sources for bank to raise capital. The difference between hybrid capital bonds and subordinated bonds is that the hybrid capital bonds have more equity features. They can put off to pay the interest and principal under some conditions. Every qualified bank can issue the amount of hybrid capital bonds no more than 100% of its core capital.

3.3.3.3 Other Financial Bonds

In 2003, securities firms are approved to raise capital by issuing bonds publicly or through the private placement. In 2004, the People's Bank of China allows securities firms to issue short-term financing bills in the interbank market, which satisfied securities companies' short-term financing needs and provided money market investors alternative investment opportunities.

3.3.4 Corporate Bonds

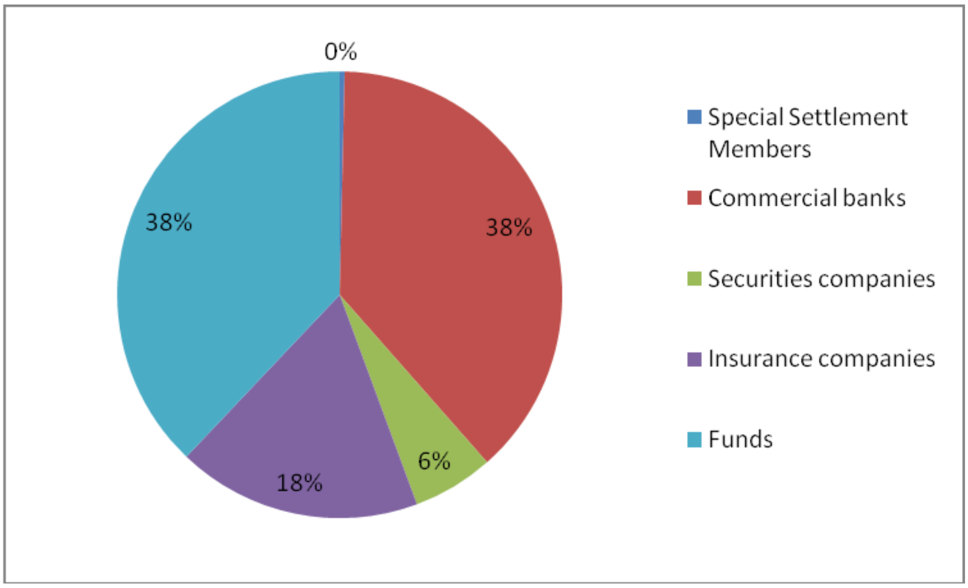
Besides of issuing stocks or taking loans from banks, the corporations can also raise money by issuing the corporate bonds. Corporate bonds can be issued by any company, and there are no restrictions on the issuers of corporate bonds, even small companies can issue corporate bonds as long as they meet the criteria. Corporate bond issuance requires verification and approval from the CSRC. The advantages of corporate bonds are not only providing the long-term capital, but also imposing no strict limitation on the usage of the capital compared to bank loans. Currently, the main types of corporate bonds in China are enterprise bonds, short-term financing bonds, medium term notes, and listed company bonds.

3.3.4.1 Enterprise Bonds

The *enterprise bonds* are the earliest type of corporate bonds issued in China. Enterprise bond is a much larger and a more actively traded sector of the Chinese bond market compared to corporate bonds. Enterprise bonds are bonds issued by institutions attached to Central Government departments, enterprises solely funded by the State, state-controlled enterprises and other large-sized state-owned entities. Enterprise bond issuance is subject to administrative approval for a quota from the National Development and Reform Commission.

Typically, enterprise bonds are issued to fund infrastructure construction, fixed asset investment, key technical renovations, public welfare and other projects that are vital to national well-being and people's livelihoods. For example, the China National Petroleum, the state-owned fuel production company, China Petrochemical, Asia's largest refining and petrochemical enterprise, and China Telecom, a state-owned telecommunications company. Due to the tightly regulation of the National Development and Reform Commission on the issuance of enterprise bonds, the size of it has grown slowly. There was no more than RMB 700 billion outstanding at the end of 2008. But recent years it has developed rapidly, at the end of 2014, the total outstanding amount for enterprise bond is around 2.9 trillion. The enterprise bonds usually trade in both the interbank market and exchange market. As they are usually guaranteed by one of the state-banks, their coupon rates are lower than those of listed company bonds with the same maturity. The major investors of enterprise bonds are commercial banks, insurance companies and mutual funds.

Chart 3.9 Ownership Structures of Chinese Enterprise Bonds



Source: Chinabond. Date as of 2014. Special Settlement Members include the PBOC, MOF, policy banks, CGSDTC, CSDCC and exchanges.

3.3.4.2 Short-term Financing Bonds and Medium Term Notes

Short-term financing bonds also called commercial paper (CP) and MTNs are issued and traded in the interbank market, supervised by the PBOC. The issuers are usually large corporations with good condition, so there is no bank guarantee is required. However, there is credit rating required for issuance. Commercial banks and mutual funds are the major investors of them. The administrative rules for short-term financing bills were published on May 23, 2005.

To offer some debenture variety of financial market, PBOC started to issue MTN in April 2008. MTN issues are usually large listed companies, or enterprises focused on coal production, power generation, oil refining or transportation services.

These two types of corporate bonds have been grown very fast in the past year, and became two of the most actively traded instruments in Chinese bond market. At the end of 2008, the size of short-term financing bond market reached RMB 420.4 billion, and the MTNs reached RMB 167.2 billion.

3.3.4.3 Listed Company Bonds

The *listed company bonds* were started in 2007 and are supervised by the CSRC. They are issued by the listed companies and traded in the exchange market. Listed company bonds are real credit bonds without bank guarantees. As the relatively high risks, they have higher coupon rates than enterprise bonds with the same maturity.

3.4 Main Participants of Bond Market in China

Main participants of bond market can be divided into two parts, the issuers and investors. The bond issuers have been introduced in last section, including the MOF, PBOC, local governments, policy banks, commercial banks, non-banking financial institutions, state-owned enterprises, listed companies, and international agencies.

The other important part is investors. The major investors in the China's bond market include commercial banks, insurance companies, mutual funds, securities companies, occupational pension funds, non-financing institutions, and foreign financial institutions holding Qualified Foreign Institutional Investor (QFII) licenses. These different investors have different objectives and preference.

There are *special settlement members* (SSM) including the PBOC, MOF, and the policy banks, the Shanghai Stock Exchange, the Shenzhen Stock Exchange, CGSDTC and CSDCC.

3.4.1 Commercial Banks

Commercial banks are the main market participants for both primary and secondary markets, although they are only allowed to trade in the interbank market. At present, the commercial banks can invest government bonds, policy bank bonds, enterprise bonds with high rating, commercial bank subordinate bonds, CPs and MTNs. Commercial banks prefer to invest short-term to mid-term bonds.

At the end of 2008, the total amount of government bonds, policy bank bonds, corporate bonds and CPs held by Chinese commercial bonds was RMB 5457 billion. Commercial banks invest bonds mainly through participating in underwriting in the primary market. Sometimes they may trade in the secondary market for liquidity management. Commercial banks are the primary dealers for open market operations and market makers in the interbank market. Their quotes play a significant role for market liquidity and price discovery.

3.4.2 Insurance Companies

Insurance companies are the second largest institutional investor in the China's bond market. They can invest both in the interbank and exchange markets. At the end of 2008, the total assets of Chinese insurance companies reached RMB 3341.8 billion, among which RMB 2246.5 billion were available for investment. Insurance companies usually allocate their assets among negotiable bank deposits, bonds and mutual funds. They can invest in low risk instruments such as government bonds, central bank bills, policy bank bonds, policy bank subordinate bonds and RMB denominated bonds issued by international development institutions.

However, they are not allowed to invest in the commercial bank bonds, corporate bonds and other low credit instruments. The enterprise bond is very favored by the insurance companies to be held because of the very high rating and bank guarantees. As the liabilities of insurance companies are usually long-term, insurance companies are preferred to invest in the long-term bonds. Therefore, they are the largest investors of long-term government bonds in the exchange market and major investors in long-term financial bonds in the interbank market.

Large insurance companies invest the bond mainly through the primary market. There were four insurance companies with good status also act as primary dealers for open market operations in the interbank market.

3.4.3 Securities Companies

Securities companies are very important investors in the Chinese bond markets. Securities firms have a unique status in the bond market, because they act as investors, brokers and market maker at the same time. Securities companies can participate in both primary and secondary market, and can invest almost all kind of bonds. As they are short of long-term capitals and the high opportunity cost as their capital can be invested in stocks, securities companies always prefer to invest short-term bond for liquidity management and momentum trading.

Due to the high risk tolerance and strong research abilities, securities companies participate actively in corporate bonds and CP markets. Securities companies provide brokerage services to other investors who do not have direct access or demand to make anonymous trades.

They can invest in both exchange market and interbank market, and it provides important channels for cross-market trading. Qualified securities companied can also act as primary dealers and market makers in the interbank market. Because they have strong research capabilities and broad client base, it makes their quotes very instructive for market price discovery.

3.4.4 Mutual Funds and Occupational Pension Funds

Currently, *mutual funds* have become a significant role in the Chinese bond market. They have direct access to the interbank market and indirect access to exchange market through securities companies. Mutual funds can invest in almost all kinds of bonds. As it has the open-ended features, it usually prefer the instruments with higher liquidity with short-term to mid-term maturities.

Occupational pension funds providing by companies for their employees are important supplement to the basic social security system. In May 2004, a regulation set the rules for the qualification and responsibilities of the custodian trustee and fund managers.

Followed the regulations, liquid instruments such as demand deposits, central bank bills, short-term bond repos and money market funds should take a share of at least 20% of the funds. The total weights of time deposits, negotiable bank deposits, fixed income instruments, convertibles and bond funds should be no more than 50% of the funds and 20% of the funds should be invested in the government bonds. Regulation also set a 30% cap on the combine weights of equities, equity funds and investment-linked insurance products.

Currently, there are more and more companies have joined the system. It is estimated that this market will grow steadily, even exceed the mutual funds market in the future.

3.4.5 Non-bank Financial Institutions and Non-financial Institutions

Non-bank financial institutions and *non-financial institutions* are also the participants in the Chinese bond market. Non-bank financial institutions include Postal Saving Bank of China, large scale finance companies, financial leasing companies and so on. Non-financial institutions include large scale enterprises. These two kinds of institutions all have direct access to interbank markets and indirect access to exchange markets through the securities companies. The total amount of bonds held by them was 70 billion and 29 billion at the end of 2008.

3.4.6 Foreign Investors

Foreign investors can gain the access to the Chinese bond market by applying QFII quotas. QFII applicants have to meet requirements set by the CSRC and the State Administration of Foreign Exchange (SAFE). If it is approved, it can invest in government bonds, corporate bonds, convertible bonds and warrants listed on the Shanghai and Shenzhen stock exchanges, and other financial instruments approved by CSRC. According to the statistics from SAFE, there were 265 approved QFII with a total quota of USD 69.72 billion by the 27th February 2015. Some foreign institutional investors with QFII quotas have been introduced to the interbank market. In 2005, with the approval of PBOC, the Pan-Asia Index Fund and China Bond Index Fund of the Asian Bond Fund II were granted direct access to the interbank market.

3.4.7 Rating Agencies

The *rating agencies* are also important participants in the bond market. As stated in the previous chapter, market participants typically do not do their own credit analysis of a debt obligation. Instead, they rely primarily on nationally recognized rating companies that perform credit analyses and issue their conclusions in the form of ratings (Fabozzi, 2009). Global ratings agencies such as Moody's, S&P and Fitch assign ratings to China treasury bonds and non-treasury bonds in foreign currencies.

There are four major domestic credit rating agencies in China: China Chengxin International Credit Rating Co., Ltd.; China Lianhe Credit Rating Co., Ltd.; Dagong Global Credit Rating CO., Ltd.; and Shanghai Brilliance Credit Rating & Investors Service Co., Ltd. These local ratings agencies provide credit ratings to publicly listed bonds. The methods of rating are different in different agencies, but with the rapid development of China's capital market, especially the corporate bond market, the rating agencies will play a more and more active role in the market.

China Chengxin International Credit Rating Co., Ltd. (CCXI) is a joint-venture between Fitch Ratings and the International Finance Corporation established in 1992, and it was the first nationwide domestic credit rating agency created with the approval of the PBOC, Headquartered in Beijing, with a staff of over 40 professionals, the agency specializes in providing rating opinions on corporate bonds, convertible bonds, financial institutions, structured finance and short term financing paper.[2]

China Lianhe Credit Rating Co., Ltd. is currently the only state-owned credit rating agency in China, and is one of the most professional credit rating agencies. It is also headquartered in Beijing; the registered capital is RMB 30 million. The shareholders of this company are Lianhe Credit management Co., Ltd. and Fitch. The main business of this

[2]Source: https://www.moodys.com/Pages/atc002001002.aspx

company including: credit rating of capital market and consultation of credit risk.[3]

Dagong Global Credit Rating CO., Ltd. is in partnership with Moody’s, and it is a professional organization for credit rating and risk analysis in China. It is a major service provider for Chinese credit information. By the approval of PBOC and the State Economic and Trade Commission, it established in 1994.[4]

Shanghai Brilliance Credit Rating & Investors Service Co., Ltd. (Shanghai Brilliance Rating) was founded in July 1992. It is a national credit rating agency specializing in Issue Credit Rating, Issuer Credit Rating, Credit Management Consultation and other credit related services. The major shareholders of Shanghai Brilliance Rating are China Foundation for Development of Financial Education and Shanghai University of Finance and Economics. After more than 20 years of development, Shanghai Brilliance Rating has become an influentially larger credit rating agency with good reputation and all qualifications in China.[5]

[3]Source: http://www.lianheratings.com.cn/
[4]Source: http://baike.baidu.com
[5]Source: http://www.shxsj.com/en/inside.php?menuid=106&catid=72

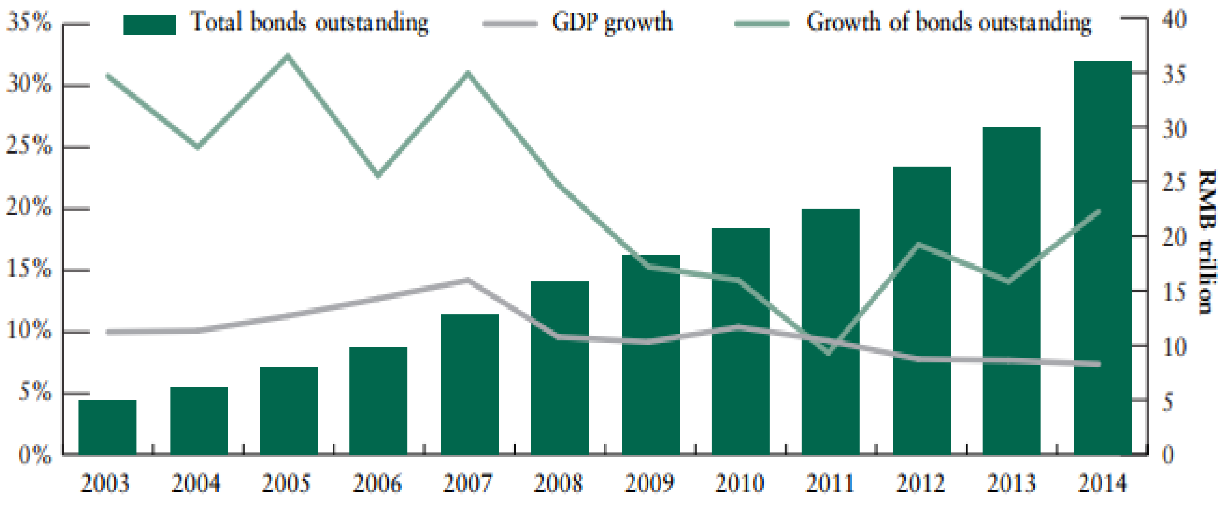
4 Assessment of Contemporary Situation

In the last decade, China's economy has grown at a rate of around 10% average and its bond market has gone through a very rapid development and became one of the world's largest. Due to the fact that China is a big county with huge population, the total amount of capital in the market are very large. However, the total amount cannot be the only criterion to evaluate the market situation; actually the bond market in China is still underdeveloped compared to the western countries in some aspects.

4.1 China Bond Market Performance [6]

As China's economy has grown, the country has developed a large and increasingly diverse market that includes both public and private debt. The chart 4.1 shows the growth of China's bond market over the last 10 years. It has been continuing increased from 2003, and the rate of growth was very high before 2008 about 25% to 30%, after 2008 the rate has slightly decreased to approximately 10% to 20%.

Chart 4.1 China's bond market growth over the last 10 years

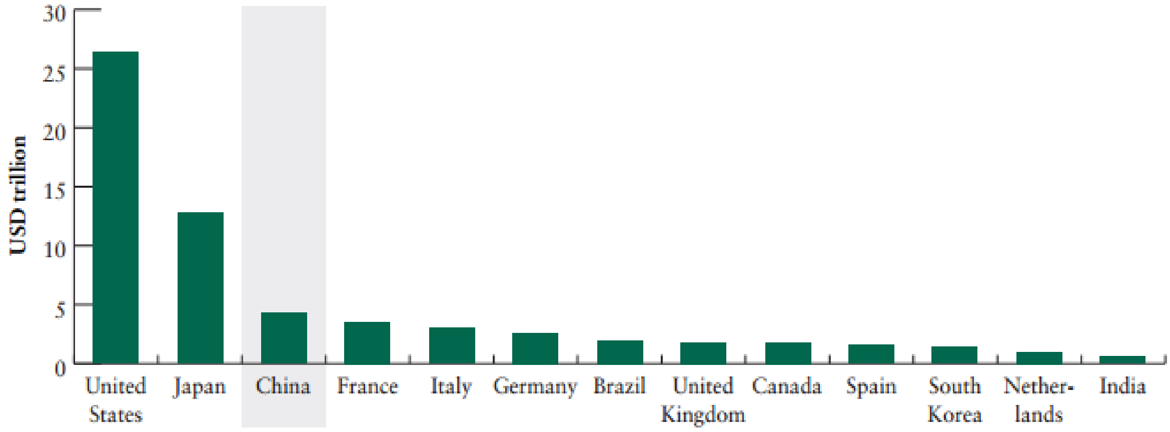


Source: www.wind.com.cn, data as of December 2014.

[6]Source:http://www.goldmansachs.com/gsam/glm/insights/market-insights/china-bond-market/china-bond-market.pdf

As shown in the Chart 4.2, China's bond market is now the third largest in the world at about RMB 35.89 trillion. Trading activity has grown rapidly and the market is very liquid, with about USD 57 trillion in total trading volume in 2014.

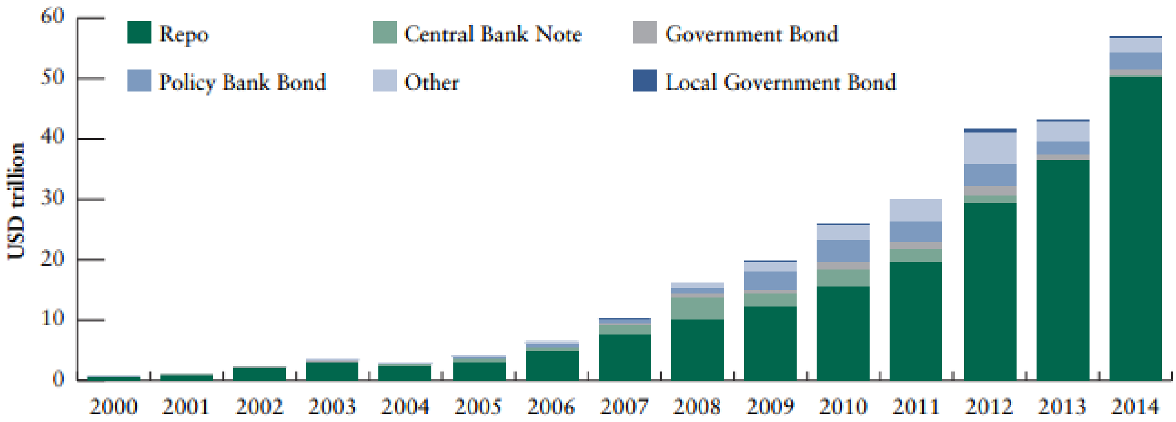
Chart 4.2 China's bond market scale ranking in the world



Source: Bank for International Settlements, data as of June 2014.

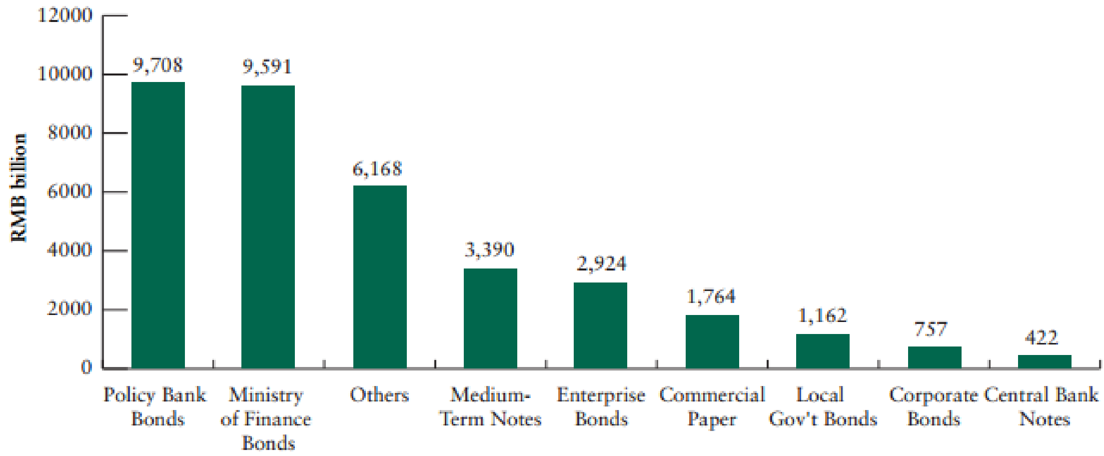
The interbank market as an important part of bond market, the proportion of its trading volume reached more than 90% in the bond market. According to the PBOC, at the end of 2014, the volume of dominated bonds on deposit in the interbank market reached RMB 26.6 trillion, merely takes up 92% of the whole bond market.

Chart 4.3 Secondary market trading activity in China



Source: www.wind.com.cn, data as of December 2014.

Chart 4.4 The size of various sectors of the market



Source: www.wind.com.cn, data as of December 2014.

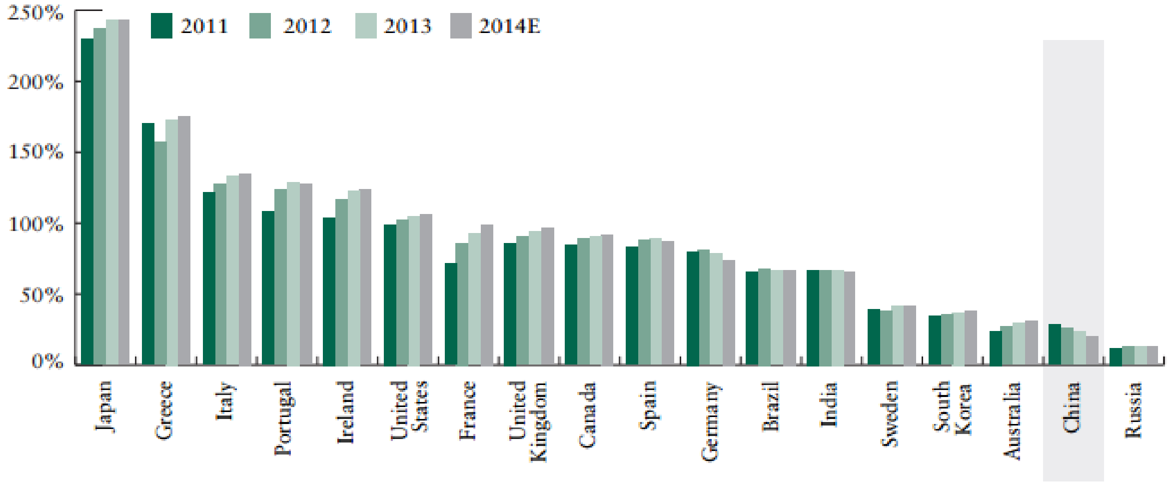
One of the key reasons that China's government has been striving to develop a domestic bond market is because Chinese corporations still rely primarily on equity issuance and bank loans for financing. Direct financing in China plays an insignificant role in financing economic growth compared to other developed economies. In 2011, outstanding private sector debt including corporate bonds. Enterprise bonds, commercial paper and financial bonds amounted to RMB 11.4 trillion compared with a bank loan balance of RMB 52.9 trillion and an equity market cap of RMB 23.1 trillion. The issuance of private sector bonds accounted for 25% of corporate financing channels in China in 2010, significantly lower than 85.6% in the US.

Because of the heavy reliance on bank loans, the government has a strong motivation to develop a bond market and encourage corporations to raise money by bond issuance. The over-reliance on bank loans for total social financing in China not only poses risks to the long-term stability of the banking system, but also restrains the development of securities firms. Therefore, it would help to diversify the credit risk concentrated in the banking system.

Another important reason for the growth of China's bond market is infrastructure development. Although fiscal revenues have grown rapidly, China still needs additional financing to fund infrastructure construction.

In addition, China's bond market is growing from a very small base. Although China's bond market has many years of rapid growth, the country's government debt-to-GDP ratio is still relatively low.

Chart 4.5 China’s debt-to-GDP ratio compared with other countries



Source: IMF, as of December 2014.

Due to the rich variety of bonds and rapid growth of the transaction size, the bond yield curves with different credit ratings and coupon types have been formed.At present, there is a price index system called “ChinaBond” Yield Curve System which is formed by CDCC and it is the most complete and transparent yield curve system and carries a high authority in China.It is now accepted by the majority of the market participates. The China Banking Regulatory Commission has officially identified three“ChinaBond” yield curves as the banking industry’s market risk measurement benchmark.

The curves from “ChinaBond” Yield Curve System can reflect the marketable RMB bond yields fluctuations and their credit spreads. In addition, the yield curve is also used by CDCC to calculate bond valuation, which is considered as the mark to market reference price.Finally, the company calculates “ChinaBond” Index based on the bond valuation. The Index can not only reflect the whole RMB bond market price fluctuations, but also can be used to measure institution’s bond investment performance.

4.2 Comparison of Chinese Bond Market with Other Countries

In order to assess the contemporary Chinese bond market more objectively, we can compare the market with some developed and mature market in other country. The US bond market as one of the oldest bond markets in the world can be a good example for China learning and inspiring. Moreover, China and the US have a similarity that they are both big country and have a large domestic market scale. The other comparable market is the Japanese bond market. Japan as a neighbor country of China is also the top economic power in Asia; it has a similar development environment and cultural background, so it is necessary to compare China's bond market with Japanese bond market.

4.2.1 Comparison of China and US[7]

The China Bond Composite Index is the most widely used bond index which can reflect the market performance. From December 2001 to December 2009, the annualized return is about 4%, while annualized volatility is 2.4%. At the same time, the Shanghai Composite Equity Index produces an annualized average return of 10% with an annualized volatility of 31.8%. The monthly returns of the China Bond Composite and Shanghai Composite Equity Index offer a negative relationship over the past several years, indicating that bond market performance is affected by investors' flight to safety.

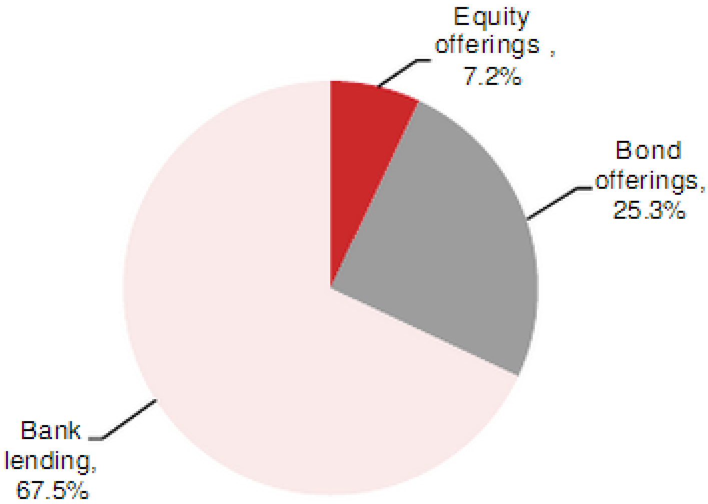
The US bond market produces a higher annualized average return of 6.33% and a higher annualized volatility of 5.05%. But if we consider RMB appreciation, the China Bond Composite offers an annualized average return of 6.79% and an annualized volatility of 2.68%, slightly exceed the US bond index.

In the US, the bond issuance is 18 times bigger than the size of bank lending and 8.9 times bigger than the equity offerings. In China, bank loans as the indirect financing still obviously take the leading role in funding corporate activities. According to PBOC, the new RMB loans represented 54% of total social financing in 2011, while the net increase in corporate bonds accounted for 8% of total social financing.

The corporate financing channels of China and US are shown in the chart 4.6 and chart 4.7. The main financing channel in China is bank lending which takes up 67.5%. But the main financing channel of US companies is bond offerings which take up 85.6%.

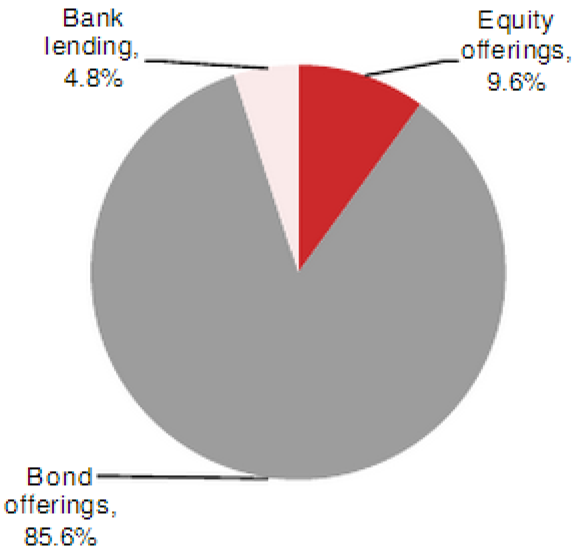
[7]Source: China Bond Market Overview – Nomura,

Chart 4.6 China corporate financing channels



Source: CSRC, PBOC, Bloomberg, CBRC, data as of 2010. Bond offerings include commercial paper, corporate and enterprise bond, financial bond.

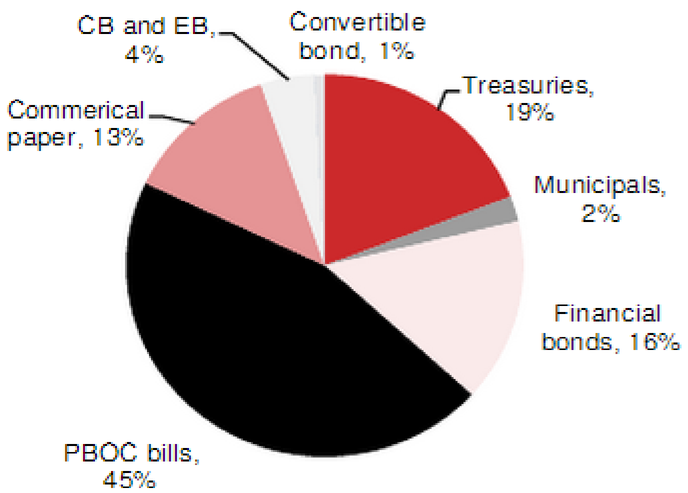
Chart 4.7 US corporate financing channels



Source: US Federal Reserve Board, data as of 2010.

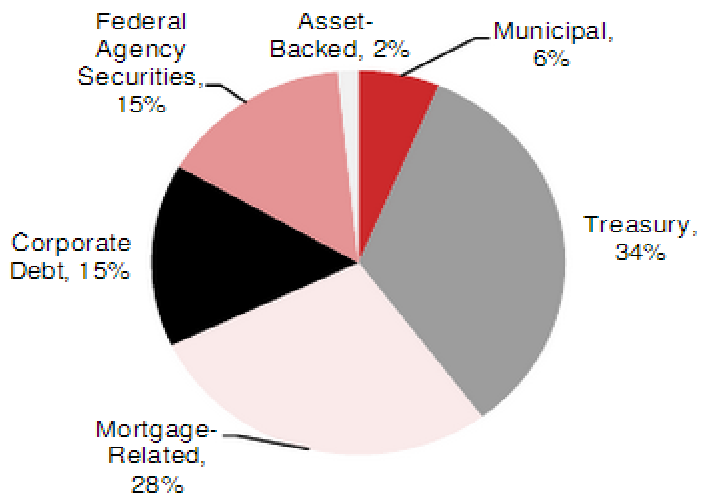
As for the structure of bond issuance, the Chinese private sector's public borrowing took up a small portion compared to the US. The government bond, PBOC bills and financial bonds together accounted for 80% of the total issuance of debt securities in China in 2010. Corporate bonds and enterprise bond combined represented about 4%, and commercial paper, asset backed securities and convertible bonds together accounted another 14%. However, in the US, the proportion of total debt issuance is more diversified. In 2010, the corporate debt, mortgage-related bond and asset-backed securities altogether accounted for 45% of all new bond issuance.

Chart 4.8 Issuance of different types of bonds in China



Source: www.wind.com.cn, data as of 2010.

Chart 4.9 Issuance of different types of bonds in the US



Source: US Department of Treasury, Federal Agencies, data as of 2010.

4.2.2 Comparison of China and Japan

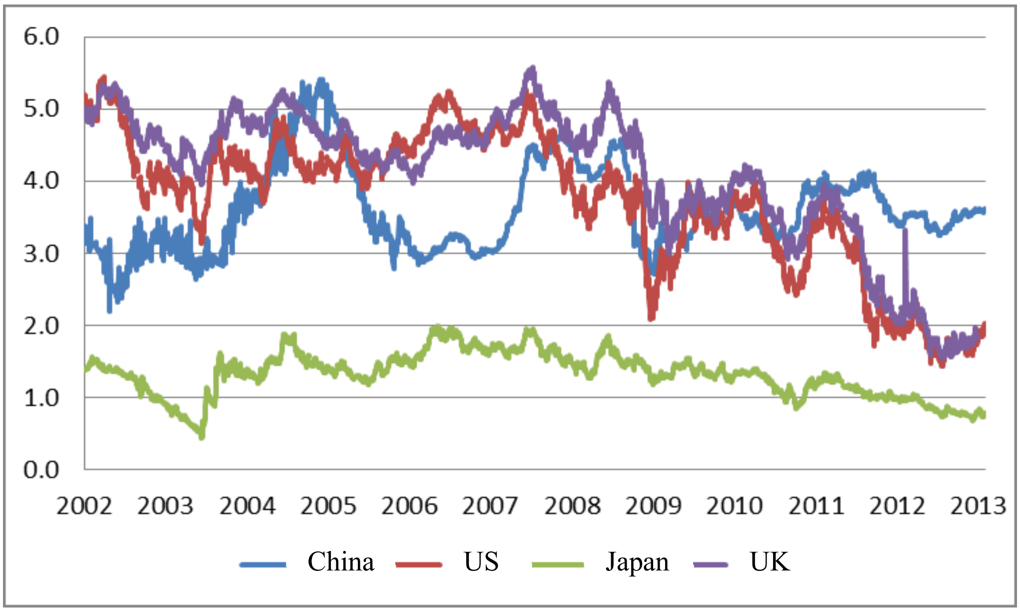
The Japanese government bond market is a relatively representative market of the national debt market, because of the regular issuance, scientific procedures, and the rich transaction methods in the secondary market.

Due to the differences in the financial system, Japanese market is very different with the US bond market, but more close to Chinese market. Japan as a typical representative of financial intermediary leading financial system its indirect financing channel such as bank loans take a leading role in funding corporate activities. The commercial bank in Japan is the main even the only financial intermediaries. The bond market is not a supporting role in the financing activities. Therefore, the corporate funding channels in Japan are similar to China.

The chart 4.10 shows the 10-years government bond yield fluctuation of China, the US, and Japan from 2002 to 2013. It is obviously that the fluctuation of Japanese government bond is smallest, and the curve is relatively steady compared to other countries. Even the financial crisis in 2008 has a very small impact on Japanese government bond yield. Another notable feature of Japanese government bond is the yield of 10-years government bond is below 2%, and it has the trend that keeps decreasing, till 2012 the yield is below 1%. On the contrary, China government bond yield curve is fluctuant, and the yield is almost higher than 3% till now.

In addition, the yield curve of the US is declining from 2011, and have the trend closing to 2%, but the yield curve of Chinese government bond are still relatively high.

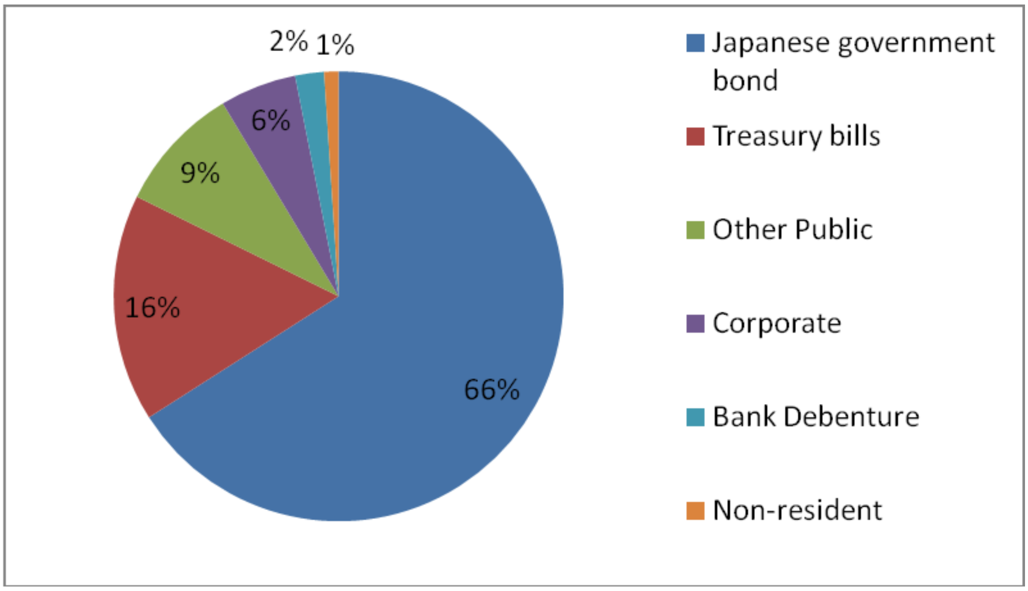
Chart 4.10 The international comparison of 10-years government bond yield



Source: www.wind.com.cn

As for the structure of bond issuance, Japanese bond market is similar to Chinese bond market that the private sector's public borrowing took up a small portion. The Japanese government bond and treasury bills together accounted for 82% of total issuance of debt securities in 2010. However, it is notable that the main difference between the structure of Japan and China is that the non-resident bond also called foreign bond in Japan has a certain position. But the portion of foreign bond in China is few among the all types of bonds.

Chart 4.11 Issuance of different types of bond in Japan



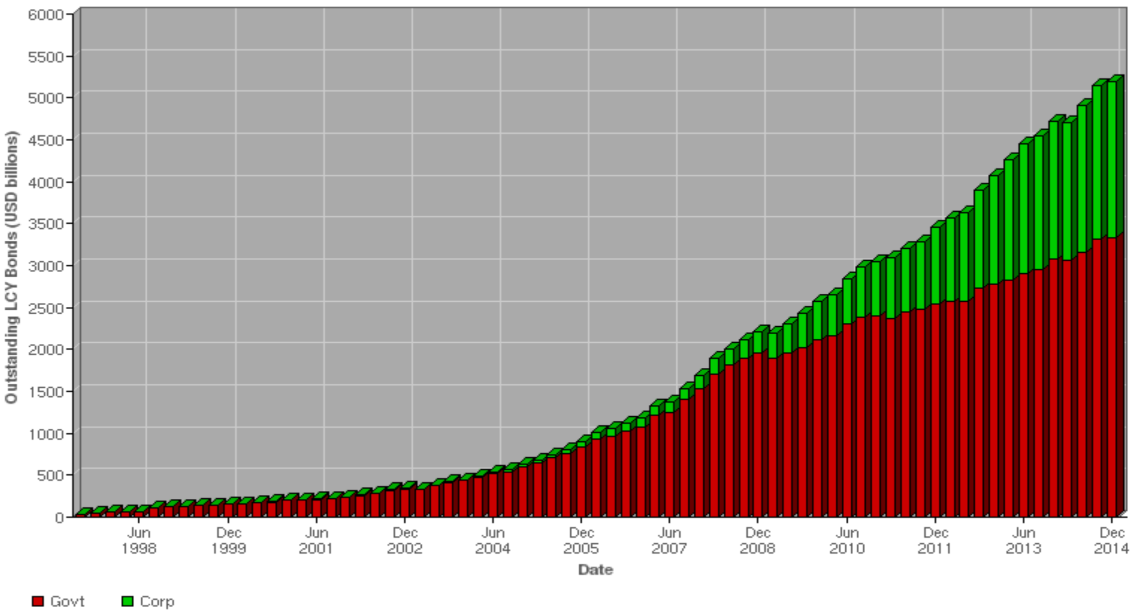
Source: Japan Securities Dealers Association, data as of 2010.

As for the size of bond market, the chart 4.12 and 4.13 shows the development of bond market size of China and Japan. This indicator shows the absolute amount of local currency bonds outstanding, categorized as government and corporate.

Compared to the Japan, Chinese corporate bond market started very late and with a small base. The structure of Chinese government bond and corporate bond is imbalanced, and the portion of corporate bond in China is keeping increasing rapidly.

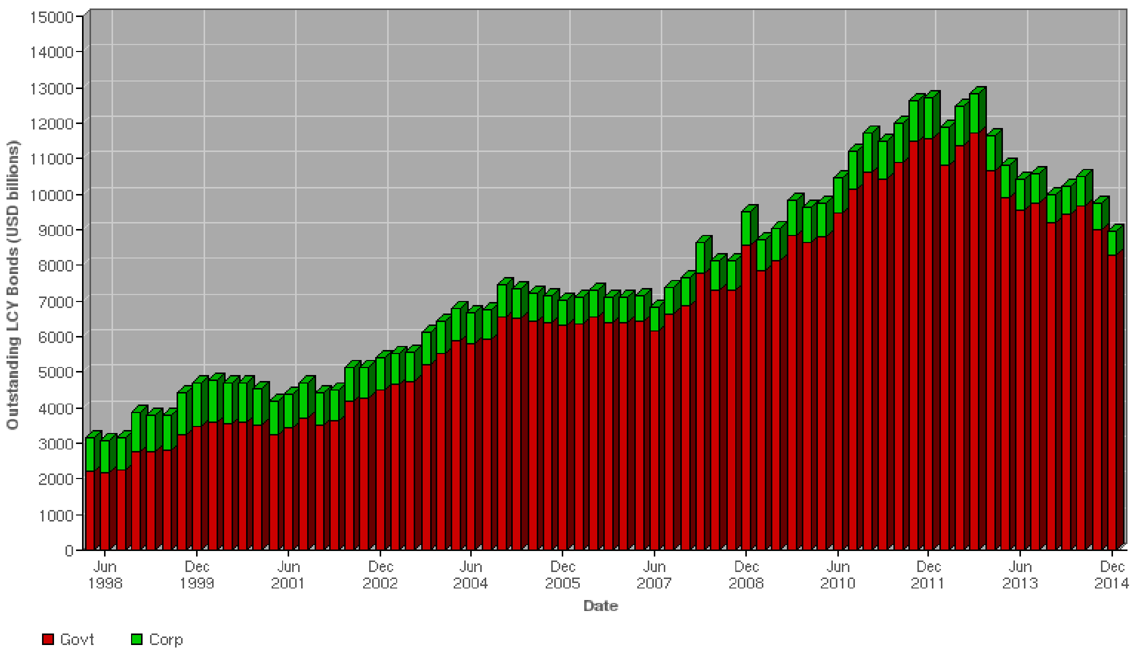
However, the bond market started earlier in Japan, and we can see the corporate bond market in Japan is stable and fixed with a constant portion of the whole market. The development trend of government bond is increase from 1998, and the portion of it has been increased till 2011, much greater than the corporate bond. From 2011 to now, the portion of government bond is decreasing.

Chart 4.12 Size of Local Currency Bond Market in China



Source: Chinabond, www.wind.com.cn, data as of 2014.

Chart 4.13 Size of Local Currency Bond Market in Japanese



Source: Japan Securities Dealers Association, data as of 2014.

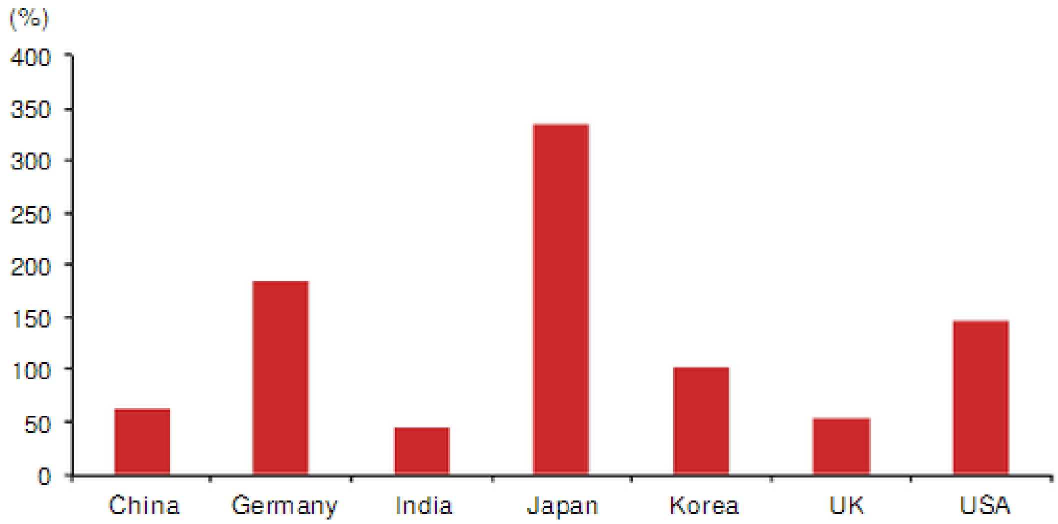
Overall, the Japanese bond market is already a mature market, and it is relatively stable and has a trend of reducing and shrink. At the same time, China's bond market is still at the stage of rising and need to be more steady and regular. Therefore, the development of Japanese bond market can be used for a reference and model of Chinese bond market.

4.3 The Weaknesses of Developing China's Bond Market

First of all, a main weakness in China's bond market is that *the proportion of bond financing is very low*. In China, direct financing, particularly fixed income, has gone through a fundamental change and structural development. The direct financing has a low contribution in driving the economy compared to the loans. In most developed markets and some emerging economies, corporate bond offerings are the principal funding channel for corporate.

Compared to the equity market, the ratio of outstanding debt is very low. In 2010, the outstanding amount of domestic debt securities in China accounted for 64% of equity market capitalization which is lower than that in developed countries like the US, Germany, and Japan. As one of the emerging markets, the ratio inKorea bond market is also higher than China.

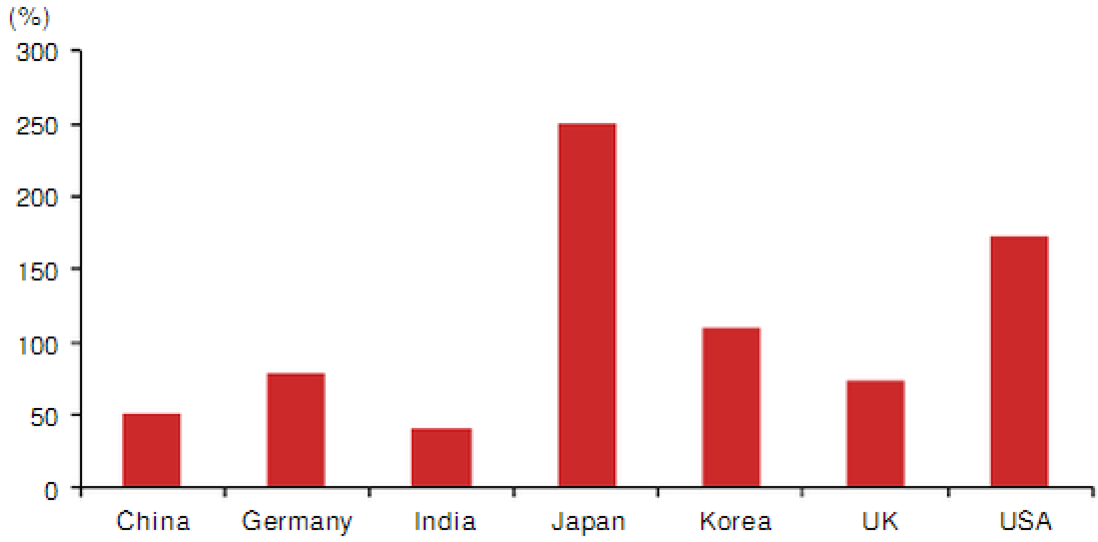
Chart 4.13 Ratio of outstanding debt to equity market capitalization



Source: World Bank, Bank for International Settlements, data as of 2010.

Furthermore, *the debt to GDP ratio in China bond market is also very low*. In 2010, the balance of debt securities in China stood at USD 3 trillion, or 52% of its nominal GDP, only higher than India, and lower than the average 121% of Germany, Japan, Korea, the UK and the US.

Chart 4.14 Ratio of outstanding debt to GDP



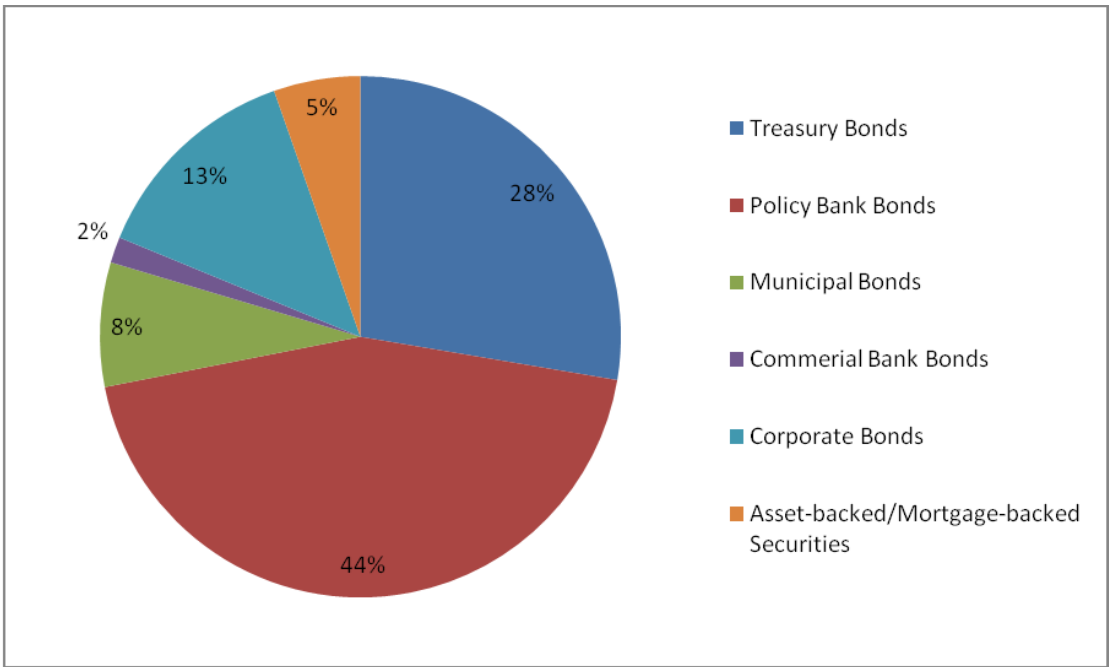
Source: World Bank, Bank for International Settlements, data as of 2010.

The second weakness is that the *corporate bond takes a low percentage in the proportion of total debt offerings*. Although the development of bond market is rapid in recent years, the development of corporate bond market is relatively slow compared to the financial bonds and government bond. As the scale of issuance, the distribution of various typed of bond is not reasonable enough, the proportion of issuing government bond, policy bank bond and commercial bank bonds is very high in the total issue amount, and the corporate bonds accounted for a very low proportion.

In 2010, the book entry and saving government bonds issued a total amount of RMB 1.5878 trillion, while the issuance of corporate bonds is less than 23% of the amount of government bond, and it only takes 3.8% of the total amount.

In 2014, as shown in the chart 4.15, the government bond and policy bank bond together accounted for more than 70% of the total issuance of debt securities in China.

Chart 4.15 The structure of bond issuance in China



Source: www.chinabond.com.cn, data as of 2014.

In addition, *the corporate bond did not fully play the function of financing tools*. Because of the historical reasons, Chinese corporate bond issuers are mainly the institutions attached to central government and state-owned enterprises, the real corporate issuers are less, especially the small and medium-sized enterprises, private enterprises.

As introduced in the previous chapter, the main type of corporate bond in China bond market is enterprise bond. And the enterprise bonds are issued to fund infrastructure construction, fixed asset investment, key technical renovations, public welfare and other projects that are vital to national well-being and people's livelihoods. Therefore, along with the infrastructure construction of people's livelihood, the city investment companies became the largest group to issue corporate bonds. In 2009, the amount of corporate bond issued by city construction investment enterprises is 167.7 billion, which accounted for the issuance of corporate bonds 61%, and 40% of the funds it raised.

In the name of "corporate bonds", various types of monopoly industries and public sectors occupied the opportunities to issue the corporate bonds, crowding out the real enterprises that need the opportunities to raise money through the bond market. In fact, the corporate bond became the channels for large state-owned enterprises and local investment and financing enterprises to cover the short of capital. Therefore, the opportunities for small and medium-sized enterprises, private enterprises to fund through the corporate bond market are occupied, and they did not have an equal condition to compete with the large enterprises.

The third weakness is that the *scale of exchange market is very small compared to the interbank market*. In 2011, the interbank market issued 1604 bonds, while the Shenzhen and Shanghai Exchange market issued 237 and 101 bonds, which only took up 17%.

The fourth weakness is that the *liquidity of bond is low*. On the one hand, the liquidity of exchange market is very low; the daily trading volume of corporate bonds is only 500 million. On the other hand, the daily trading volume of low credit rating bonds is low, and some main investors like banks and insurance companies are forbidden to invest in these bonds.

The fifth weakness is that the *imbalance of the structure of investors*. China's bond market has been in segregation for some time. In the primary market, NDRC, CSRC and PBOC segregate their responsibilities for the approval of enterprise bond, corporate bonds and commercial papers. In the secondary market, PBOC governs the interbank bond market and CSRC governs the exchange market. Due to the segmentation of China's bond market and the differences among Shanghai exchange, Shenzhen exchange and interbank market are very high, the exchanges market, interbank market and the bank counter market segment from each other. Besides, investors in the interbank bond market and exchanges differ. The institutional investors are the main participants on the interbank bond market, while the exchange market more concentrates on retail investors.

The sixth weakness is that the *pressure on the market is very high*. Because of the capital market in China is in the new stage and the market supervision are incomplete, the credit environment is imperfect, and the pressure from domestic and foreign society is high. The main reason of imperfect credit environment is that the credit foundation is weak. There exist serious information asymmetry problem in China's bond market; the problem of credit transactions has become an urgent problem in China. In order to ensure the subjects in the market believe in each other, much attention should be paid on the credit problems. Compared with the developed countries, the standard of disclosing the information of corporate bond issuance is lower. In addition, the attentions on continuous disclosure of information on corporate bonds are not enough.

4.4 The Potential and Future of China’s Bond Market

The basic structure of the RMB bond market has been formed. In the short term, the market should be improved and complemented in terms of management and function. Based on the current situation in China’s bond market, there are some suggestions and prospect for the future development of the market.

First of all, the bond market supervisory authorities should improve their supervision effectiveness by making efforts to improve cooperation among different departments and reducing their friction into a minimum level.

For the government bond market, the short-term and long-term debt is not as active as the mid-term government bond. On the premise of keeping the issuance of government bond, the term structure of government bond also need to be adjusted. Considering from perfecting the treasury yield curve point of view, it is recommend appropriate increasing the issuing amount of short-term and long-term bond and increasing the frequency of issuance. It will contribute to the short term and long term government bond market to be more active and provide more abundant signal of market price for treasury bond yield curve.

Due to the recent macroeconomic changes in the Chinese economy, the corporate bond market has experienced rapid growth during recent years, particularly in the non-financial space. However, China’s corporate debt markets are not well complete, because of 80 of the top 100 corporate in China are state-owned companies and there are widespread expectations of slower growth in the coming years, or a potential economic correction, which could derail the market. Additionally, corporate bonds are still issued at absolute yields rather than at a spread over a benchmark, which makes it difficult for corporations to do their financial planning. As China’s savings rate decreases, and deposit growth continues to slow, bank liquidity will become tighter, causing slower loan growth for corporate borrowers. The result of these conditions makes it necessary that China further develop this market as private corporations seek more efficient, and consistent ways to meet their funding requirements.

As for the situation that the real corporate bonds accounted for a low proportion of the bond market, obviously it will be improved in the future. First of all, the government needs to encourage the issuance of corporate bond. As a direct financing channel, the expansion of the issuing scale of corporate bond will promote the whole market to be more balanced and complete. At the same time, it will be helpful for adjusting the structure of capital market in China. During the last decade, the development of corporate bond market was slow, and the main reason is the weakness on the China's credit system, so the government bears relatively high risk of issuing corporate bond. However, the construction of China's credit system now have achieved some results, so currently China already has the conditions to develop the corporate bond market.

In order to enlarge the issuing scale of corporate bond, the issuing system needs to be reformed, and the requirements on it need to be lower. It will motivate more enterprises to issue corporate bonds. After reducing the requirement of corporate bond issuance, different types of enterprises will have more opportunities for financing by issuing the bonds. Further deregulation of enterprise and corporate bonds would help smooth financing channels between investors and raisers. In addition, debt financing is cheaper than equity financing, therefore, we can expect bond financing to develop and provide another channel for non-state-owned firms.

As the development of corporate bond is behind other financing methods, it limits the enterprises especially the small and medium-sized enterprises and private enterprises, so they do not have the enough opportunities. Moreover, it also can not satisfy the diversified demand of investors. Expanding the range of issuers properly can not only meet the financing needs of enterprises, but also to activate the secondary market through the activation of corporate bond market. Therefore, the main issuer of corporate bonds should not be limited to the state-owned enterprises or large companies. The companies with high potential and good credit, and some qualified private enterprises can also be included in the issuer of corporate bonds, they should have the qualification to issue bond and raise money. Thus the various corporate bonds with different credit rating will meet the investors with different risk preferences, and gradually improve the issuance mechanism of corporate bond market.

Besides, the credit rating system in China also needs to be improved. The establishment of a high standard credit system and credit management system, the enterprise bond marketcan develop healthily and safely. Credit rating agencies should provide the investors with objective and fair suggestion for them to make the decision.

As China's economy growing continuously and RMB's status is getting stable, China's international financial impact will also grow constantly.At present, a more realized strategy is to open RMB bond market to international investors.With respect of RMB bond market's current development, the RMB bond market has certain attraction to international investors and the attraction will grow.This will also be a significant opportunity for RMB bond market's future development.

Foreign institutional investors can eventually be expected to receive direct access to China's interbank bond market, diversifying the investor base. The investor base for the bond market currently tends to be dominated by commercial banks. Fixed income funds and hedge funds, which may trade more actively, are still underdeveloped. Foreign institutional investor participation may also diversify the current investor base and bring a different investment concept and intense competition.

5 Conclusion

Although China's bond market has a long development history, the market did not get real development in the early stage. In fact, China's bond market started late especially the corporate bond market, but in the condition that China's economy grows rapidly it has grown very fast during recent years.

There has been increasing attention paid to the appearance that the great amount and growth of China's bond market, however, there are also some problems and weaknesses exist under the booming appearance. From the comparison with the US and Japan, we can also learn and inspire from their development. In spite of the rise of the China's corporate bond market, the structure of the corporate bond market is not very healthy, and the corporate bonds did not express their real functions to provide direct funding channels for companies. In recent years, enlarging corporations' direct financing is considered to be an important reform strategy of reducing indirect financing. Therefore, the adjustment in the corporate bond market is expected in the future.

Nevertheless, with the growth of China's economy, the RMB bond market is a new market with rapid growth. Compared with other advanced markets, the RMB bond market is still inadequate in several areas due to its short time development, but we are making efforts to improve and complement the market functions. People are fully confident that with the growth of China's economy and stability of RMB currency, the RMB bond market will become an international, attractive and competitive market.

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List of Abbreviations

CPI:Consumer Price Index

CGSDTC: China Government Securities Depository Trust & Clearing Co. Ltd

CSDCC: China Securities Depository and Clearing Co. Ltd

CSRC: China Securities Regulatory Commission

PBOC: People's Bank of China

MOF: Ministry of Finance

CP: Commercial Paper

MTN: Medium-Term Note

QFII: Qualified Foreign Institutional Investor

SSM: Special Settlement Members

SAFE: State Administration of Foreign Exchange

CDCC: China Data Center Committee

CBWMP:Commercial Banks Wealth Management Product

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Ostrava dated 7th May, 2015

唐韵 Yun Tang
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Yun Tang

List of Annexes

Annex 1 Bond Distribution Volume (By market type)

In RMB 100 Millions Month: 2015-03	This month				This year			
	Total	Inter-bank	Exchanges	OTC	Total	Inter-bank	Exchanges	OTC
Sum	4,889.17	4,842.10	47.05	0.02	10,704.69	10,556.33	144.53	3.83
Government Bonds	800.00	792.38	7.60	0.02	1,800.00	1,755.55	44.30	0.15
Treasury Bonds	800.00	792.38	7.60	0.02	1,800.00	1,755.55	44.30	0.15
Savings Bonds(Electronic)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Local Government Bonds	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Central Bank Bonds	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Policy Bank Bonds	3,410.50	3,410.50	0.00	0.00	7,110.60	7,106.92	0.00	3.68
China Development Bank	1,615.00	1,615.00	0.00	0.00	3,565.00	3,561.32	0.00	3.68
Export-Import Bank of China	750.00	750.00	0.00	0.00	1,740.00	1,740.00	0.00	0.00
Agricultural Development Bank of China	1,045.50	1,045.50	0.00	0.00	1,805.60	1,805.60	0.00	0.00
Government Supporting Institution Bonds	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Commercial Bank Bonds	67.00	67.00	0.00	0.00	392.00	392.00	0.00	0.00
The common bond	67.00	67.00	0.00	0.00	392.00	392.00	0.00	0.00
subordinated bond	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hybrid capital bond	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Instruments	22.00	22.00	0.00	0.00	27.00	27.00	0.00	0.00
Tier 2 capital	22.00	22.00	0.00	0.00	27.00	27.00	0.00	0.00
Non-bank Financial Institution Bonds	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Corporate Bonds	446.00	406.55	39.45	0.00	867.22	766.99	100.23	0.00
State-owned Corporate Bonds	30.00	30.00	0.00	0.00	30.00	30.00	0.00	0.00
Local Corporate Bonds	416.00	376.55	39.45	0.00	834.00	733.77	100.23	0.00
Collecting Bonds	0.00	0.00	0.00	0.00	3.22	3.22	0.00	0.00
Asset-backed Securities/Mortgage-	143.67	143.67	0.00	0.00	507.87	507.87	0.00	0.00

backed Securities								
Middle Term Notes	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
SME Collective Notes	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Foreign Bonds	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
International Institution Bonds	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Others	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Annex 2 Bond Issuance (By term type, 2014)

	Total	<=1 year	1-3 years	3-5years	5-7 years	7-10 years	>=10 years
Sum	59,517.84	8,433.63	14,054.56	10,115.06	13,830.25	10,802.20	2,282.14
Government Bonds	20,247.35	2,889.10	4,431.88	3,870.17	4,098.50	3,397.70	1,560.00
Treasury Bonds	14,363.30	2,889.10	2,150.80	1,510.40	3,182.90	3,070.10	1,560.00
Savings Bonds(Electronic)	1,884.05	0.00	1,124.08	759.97	0.00	0.00	0.00
Local Government Bonds	4,000.00	0.00	1,157.00	1,599.80	915.60	327.60	0.00
Central Bank Bonds	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Policy Bank Bonds	22,980.52	4,709.00	6,881.52	5,300.00	3,730.00	2,280.00	80.00
China Development Bank	11,405.42	1,986.00	2,689.42	2,400.00	2,360.00	1,890.00	80.00
Export-Import Bank of China	5,025.10	1,253.00	1,642.10	1,320.00	760.00	50.00	0.00
Agricultural Development Bank of China	6,550.00	1,470.00	2,550.00	1,580.00	610.00	340.00	0.00
Government Supporting Institution Bonds	1,500.00	0.00	0.00	0.00	300.00	1,100.00	100.00
Commercial Bank Bonds	834.00	0.00	595.00	239.00	0.00	0.00	0.00
The common bond	834.00	0.00	595.00	239.00	0.00	0.00	0.00
subordinated bond	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hybrid capital bond	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Instruments	3,568.50	0.00	0.00	0.00	0.00	3,368.50	200.00
Tier 2 capital	3,568.50	0.00	0.00	0.00	0.00	3,368.50	200.00
Non-bank Financial Institution Bonds	632.00	0.00	366.00	266.00	0.00	0.00	0.00
Corporate Bonds	6,961.98	0.00	36.00	299.00	5,696.98	656.00	274.00
State-owned Corporate Bonds	368.00	0.00	0.00	158.00	0.00	110.00	100.00
Local Corporate Bonds	6,530.50	0.00	36.00	126.00	5,648.50	546.00	174.00
Collecting Bonds	63.48	0.00	0.00	15.00	48.48	0.00	0.00
Asset-backed Securities/Mortgage-backed Securities	2,793.50	835.53	1,744.16	140.89	4.77	0.00	68.14

Annex 3 Major Bonds Holding Structure

		Policy Bank Bonds					Commercial Bank Bonds		
Month: 2015-03	Treasury Bonds	CDB	EIBC	ADBC	Corporate Bonds	MTN	The common bond	subordinated bond	Hybrids capital bond
Sum	85,437.85	63,371.00	16,940.00	21,721.90	29,978.51	19,789.00	4,386.00	8,165.05	231.00
Special Members	15,795.22	66.50	54.00	59.30	62.80	307.58	16.35	0.15	2.20
Commercial Banks	59,183.48	47,098.30	14,206.35	18,107.65	6,705.02	8,578.02	3,862.47	392.85	161.25
National Commercial Banks	46,531.88	38,587.62	11,536.68	14,428.79	3,604.17	6,615.54	2,643.51	324.92	106.50
Foreign Banks	1,675.32	682.93	270.60	377.10	47.02	163.05	27.00	0.00	0.00
City Commercial Banks	7,525.12	5,088.52	1,708.31	2,227.98	1,680.26	991.01	740.50	59.24	37.55
Rural Commercial Banks	3,272.66	2,566.93	631.95	980.48	1,287.37	752.67	394.86	8.50	16.70
Rural Cooperative Banks	178.50	172.30	58.50	93.30	75.29	32.96	56.60	0.20	0.50
Rural Banks	0.00	0.00	0.30	0.00	10.90	22.80	0.00	0.00	0.00
Others	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Credit Cooperative Banks	721.39	1,914.37	429.95	691.05	1,259.40	1,002.83	88.50	23.10	14.65
Non-bank Financial Institutions	261.70	52.50	32.00	32.30	133.12	121.40	0.00	28.90	3.00
Securities Companies	296.76	185.74	27.30	32.00	1,136.35	490.73	4.93	6.80	5.15
Insurance Institutions	2,939.89	5,956.75	118.86	155.80	3,045.40	1,350.14	61.45	5,601.19	7.25
Funds Institutions	933.79	7,032.09	1,335.25	1,989.40	6,970.29	7,462.55	339.50	2,092.76	34.50
Commercial Banks Wealth Management	0.00	602.67	152.94	235.70	13.75	131.42	9.60	10.00	0.00
Non-financial Institutions	29.33	24.04	16.32	0.00	25.63	11.00	0.00	18.60	3.00
Inter-bank Market	16.45	3.40	0.00	0.00	25.43	11.00	0.00	18.60	3.00
OTC Market	12.88	20.64	16.32	0.00	0.20	0.00	0.00	0.00	0.00
Individuals	2.32	27.97	7.62	0.00	0.08	0.00	0.00	0.00	0.00
Exchanges	2,914.82	0.00	0.00	0.00	10,523.01	0.00	0.00	0.00	0.00
external institution	2,350.76	1,012.71	712.33	654.40	117.24	464.75	12.80	0.70	0.00
Others	8.38	0.05	0.02	0.00	0.16	0.00	0.00	0.00	0.00

Annex 4 Credit Rating Tiers

Moody's		S&P		Fitch		Rating description
Long-term	**Short-term**	**Long-term**	**Short-term**	**Long-term**	**Short-term**	
Aaa	P-1	AAA	A-1+	AAA	F1+	Prime
Aa1		AA+		AA+		High grade
Aa2		AA		AA		
Aa3		AA−		AA−		
A1		A+	A-1	A+	F1	Upper medium grade
A2		A		A		
A3	P-2	A−	A-2	A−	F2	
Baa1		BBB+		BBB+		Lower medium grade
Baa2	P-3	BBB	A-3	BBB	F3	
Baa3		BBB−		BBB−		
Ba1	Not Prime	BB+	B	BB+	B	Non-investment grade speculative
Ba2		BB		BB		
Ba3		BB−		BB−		
B1		B+		B+		Highly speculative
B2		B		B		
B3		B−		B−		
Caa1		CCC+	C	CCC+	C	Substantial risks
Caa2		CCC		CCC		Extremely speculative
Caa3		CCC−		CCC−		Default imminent with little prospect for recovery
Ca		CC		CC		
		C		C		
C		RD	D	DDD	D	In default
/		SD		DD		
/		D		D		